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| Mail Application To: New Mexico Environment Department Air Quality Bureau Permits Section 525 Camino de los Marquez, Suite 1 Santa Fe, New Mexico, 87505 Phone: (505) 476-4300 Fax: (505) 476-4375 www.env.nm.gov/aqb |  | For Department use only: AIRS No.: |
|--|--|--|

Universal Air Quality Permit Application

Use this application for NOI, NSR, or Title V sources.

Use this application for: the initial application, modifications, technical revisions, and renewals. For technical revisions, complete Sections, 1-A, 1-B, 2-E, 3, 9 and any other sections that are relevant to the requested action; coordination with the Air Quality Bureau permit staff prior to submittal is encouraged to clarify submittal requirements and to determine if more or less than these sections of the application are needed. Use this application for streamline permits as well. **See Section 1-I for submittal instructions for other permits.**

This application is submitted as (check all that apply): ☐ Request for a No Permit Required Determination (no fee)
☐ **Updating** an application currently under NMED review. Include this page and all pages that are being updated (no fee required).
 Construction Status: ☒ Not Constructed ☐ Existing Permitted (or NOI) Facility ☐ Existing Non-permitted (or NOI) Facility
 Minor Source: ☐ a NOI 20.2.73 NMAC ☒ 20.2.72 NMAC application or revision ☐ 20.2.72.300 NMAC Streamline application
 Title V Source: ☐ Title V (new) ☐ Title V renewal ☐ TV minor mod. ☐ TV significant mod. TV Acid Rain: ☐ New ☐ Renewal
 PSD Major Source: ☐ PSD major source (new) ☐ minor modification to a PSD source ☐ a PSD major modification

Acknowledgements:

☒ I acknowledge that a pre-application meeting is available to me upon request. ☐ Title V Operating, Title IV Acid Rain, and NPR applications have no fees.
☒ \$500 NSR application Filing Fee enclosed **OR** ☐ The full permit fee associated with 10 fee points (required w/ streamline applications).
☒ Check No.: **2280** in the amount of **\$500.00**
☒ I acknowledge the required submittal format for the hard copy application is printed double sided 'head-to-toe', 2-hole punched (except the Sect. 2 landscape tables is printed 'head-to-head'), numbered tab separators. Incl. a copy of the check on a separate page.
☒ I acknowledge there is an annual fee for permits in addition to the permit review fee: www.env.nm.gov/air-quality/permit-fees-2/.
☐ This facility qualifies for the small business fee reduction per 20.2.75.11.C. NMAC. The full \$500.00 filing fee is included with this application and I understand the fee reduction will be calculated in the balance due invoice. The Small Business Certification Form has been previously submitted or is included with this application. (Small Business Environmental Assistance Program Information: www.env.nm.gov/air-quality/small-biz-eap-2/.)

Citation: Please provide the **low level citation** under which this application is being submitted: **20.2.72.200.A NMAC** (e.g. application for a new minor source would be 20.2.72.200.A NMAC, one example for a Technical Permit Revision is 20.2.72.219.B.1.b NMAC, a Title V acid rain application would be: 20.2.70.200.C NMAC)

Section 1 – Facility Information

Section 1-A: Company Information

| | | | |
|---|--|---|-----------------------------------|
| 1 | Facility Name: Crusher Plant | AI # if known (see 1 st 3 to 5 #s of permit IDEA ID No.): N/A | Updating Permit/NOI #: N/A |
| | | Plant primary SIC Code (4 digits): 1442 | |
| | | Plant NAIC code (6 digits): 212321 | |
| a | Facility Street Address (If no facility street address, provide directions from a prominent landmark): From the intersection of Hwy 3 and US-60 to the west of Encino, NM head west on US-60 (US HWY 285 N) for 7.9 miles. The site will be on the left-hand side of the road. | | |
| 2 | Plant Operator Company Name: Fisher Sand & Gravel NM Inc. | Phone/Fax: 505-867-2600 / 505-867-1609 | |
| a | Plant Operator Address: 30A Frontage Road East, Placitas, NM 87043 | | |

| | | |
|---|---|---|
| b | Plant Operator's New Mexico Corporate ID or Tax ID: 13-4290880 | |
| 3 | Plant Owner(s) name(s): Fisher Sand & Gravel NM Inc. | Phone/Fax: 505-867-2600 / 505-867-1609 |
| a | Plant Owner(s) Mailing Address(s): PO Box 2340 Placitas, NM 87043 | |
| 4 | Bill To (Company): Fisher Sand & Gravel NM Inc. | Phone/Fax: 505-867-2600 / 505-867-1609 |
| a | Mailing Address: PO Box 2340 Placitas, NM 87043 | E-mail: bgambrel@fisherind.com |
| 5 | <input checked="" type="checkbox"/> Preparer: Martin R. Schluep <input checked="" type="checkbox"/> Consultant: Alliant Environmental, LLC | Phone/Fax: 505-205-4819 / 505-771-0793 |
| a | Mailing Address: 7804 Pan American Fwy., Suite 5, Albuquerque, NM 87109 | E-mail: mschluep@alliantenv.com |
| 6 | Plant Operator Contact: Brian Gambrel | Phone/Fax: 505-867-2600 / 505-867-1609 |
| a | Address: 30A Frontage Road East, Placitas, NM 87043 | E-mail: bgambrel@fisherind.com |
| 7 | Air Permit Contact: Brian Gambrel | Title: Project Manager |
| a | E-mail: bgambrel@fisherind.com | Phone/Fax: 505-867-2600 / 505-867-1609 |
| b | Mailing Address: PO Box 2340 Placitas, NM 87043 | |
| c | The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau. | |

Section 1-B: Current Facility Status

| | | |
|-----|---|---|
| 1.a | Has this facility already been constructed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 1.b If yes to question 1.a, is it currently operating in New Mexico? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 2 | If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3 | Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, give month and year of shut down (MM/YY): N/A |
| 4 | Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5 | If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| 6 | Does this facility have a Title V operating permit (20.2.70 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the permit No. is: N/A |
| 7 | Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the NPR No. is: N/A |
| 8 | Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the NOI No. is: N/A |
| 9 | Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the permit No. is: N/A |
| 10 | Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the register No. is: N/A |

Section 1-C: Facility Input Capacity & Production Rate

| | | | | |
|---|--|------------------------|--------------------------|--------------------------------|
| 1 | What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required) | | | |
| a | Current | Hourly: N/A | Daily: N/A | Annually: N/A |
| b | Proposed | Hourly: 600 TPH | Daily: 14,400 TPD | Annually: 5,256,000 TPY |
| 2 | What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required) | | | |

| | | | | |
|---|----------|------------------------|--------------------------|--------------------------------|
| a | Current | Hourly: N/A | Daily: N/A | Annually: N/A |
| b | Proposed | Hourly: 600 TPH | Daily: 14,400 TPD | Annually: 5,256,000 TPY |

Section 1-D: Facility Location Information

| | | | | | |
|----|--|-------------------|---------------------|---|------------------------------|
| 1 | Section: 7, 8, 17, 18, 19 | Range: 13E | Township: 5N | County: Torrance | Elevation (ft): 6,360 |
| 2 | UTM Zone: <input type="checkbox"/> 12 or <input checked="" type="checkbox"/> 13 | | | Datum: <input type="checkbox"/> NAD 27 <input type="checkbox"/> NAD 83 <input checked="" type="checkbox"/> WGS 84 | |
| a | UTM E (in meters, to nearest 10 meters): 444,937.7 | | | UTM N (in meters, to nearest 10 meters): 3,836,174.1 | |
| b | AND Latitude (deg., min., sec.): 34° 39' 57.8" | | | Longitude (deg., min., sec.): 105° 36' 3.51" | |
| 3 | Name and zip code of nearest New Mexico town: Encino, NM | | | | |
| 4 | Facility Street Address (If no facility street address, provide directions from a prominent landmark): From the intersection of Hwy 3 and US-60 to the west of Encino, NM head west on US-60 (US HWY 285 N) for 7.9 miles. The site will be on the left-hand side of the road. | | | | |
| 5 | The facility is 8 miles northwest of Encino, NM | | | | |
| 6 | Status of land at facility (check one): <input checked="" type="checkbox"/> Private <input type="checkbox"/> Indian/Pueblo <input type="checkbox"/> Federal BLM <input type="checkbox"/> Federal Forest Service <input type="checkbox"/> Other (specify) | | | | |
| 7 | List all municipalities, Indian tribes, and counties within a ten (10) mile radius (20.2.72.203.B.2 NMAC) of the property on which the facility is proposed to be constructed or operated: Municipalities: Encino; Indian Tribes: None; Counties: Torrance | | | | |
| 8 | 20.2.72 NMAC applications only : Will the property on which the facility is proposed to be constructed or operated be closer than 50 km (31 miles) to other states, Bernalillo County, or a Class I area (see www.env.nm.gov/aqb/modeling/classIareas.html)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers: N/A | | | | |
| 9 | Name nearest Class I area: Pecos Wilderness | | | | |
| 10 | Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 62.10 km | | | | |
| 11 | Distance (meters) from the perimeter of the Area of Operations (AO is defined as the plant site inclusive of all disturbed lands, including mining overburden removal areas) to nearest residence, school or occupied structure: Residence (Property Owner) – within the property fenceline; A Second Non-Owner Residence – 2,722 meters (southeast) | | | | |
| 12 | Method(s) used to delineate the Restricted Area: The restricted area is surrounded by fencing and/or signage. “ Restricted Area ” is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. | | | | |
| 13 | Does the owner/operator intend to operate this source as a portable stationary source as defined in 20.2.72.7.X NMAC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No A portable stationary source is not a mobile source, such as an automobile, but a source that can be installed permanently at one location or that can be re-installed at various locations, such as a hot mix asphalt plant that is moved to different job sites. | | | | |
| 14 | Will this facility operate in conjunction with other air regulated parties on the same property? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, what is the name and permit number (if known) of the other facility? N/A | | | | |

Section 1-E: Proposed Operating Schedule (The 1-E.1 & 1-E.2 operating schedules may become conditions in the permit.)

| | | | | |
|---|---|---|--|---|
| 1 | Facility maximum operating ($\frac{\text{hours}}{\text{day}}$): 24 | ($\frac{\text{days}}{\text{week}}$): 7 | ($\frac{\text{weeks}}{\text{year}}$): 52 | ($\frac{\text{hours}}{\text{year}}$): 8,760 |
| 2 | Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: N/A | | <input type="checkbox"/> AM <input type="checkbox"/> PM | End: N/A <input type="checkbox"/> AM <input type="checkbox"/> PM |
| 3 | Month and year of anticipated start of construction: As soon as permit is issued | | | |
| 4 | Month and year of anticipated construction completion: As soon as permit is issued | | | |

| | |
|---|---|
| 5 | Month and year of anticipated startup of new or modified facility: As soon as permit is issued |
| 6 | Will this facility operate at this site for more than one year? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

Section 1-F: Other Facility Information

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|---|--|----------------------|--|
| 1 | Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, specify: N/A | | |
| a | If yes, NOV date or description of issue: N/A | NOV Tracking No: N/A | |
| b | Is this application in response to any issue listed in 1-F, 1 or 1a above? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide the 1c & 1d info below: | | |
| c | Document Title: N/A | Date: N/A | Requirement # (or page # and paragraph #): N/A |
| d | Provide the required text to be inserted in this permit: N/A | | |
| 2 | Is air quality dispersion modeling or modeling waiver being submitted with this application? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| 3 | Does this facility require an "Air Toxics" permit under 20.2.72.400 NMAC & 20.2.72.502, Tables A and/or B? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| 4 | Will this facility be a source of federal Hazardous Air Pollutants (HAP)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | | |
| a | If Yes, what type of source? <input type="checkbox"/> Major (<input type="checkbox"/> ≥10 tpy of any single HAP OR <input type="checkbox"/> ≥25 tpy of any combination of HAPS) OR <input checked="" type="checkbox"/> Minor (<input type="checkbox"/> <10 tpy of any single HAP AND <input checked="" type="checkbox"/> <25 tpy of any combination of HAPS) | | |
| 5 | Is any unit exempt under 20.2.72.202.B.3 NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | | |
| a | If yes, include the name of company providing commercial electric power to the facility: <u>N/A</u> Commercial power is purchased from a commercial utility company, which specifically does not include power generated on site for the sole purpose of the user. | | |

Section 1-G: Streamline Application

(This section applies to 20.2.72.300 NMAC Streamline applications only)

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| 1 | <input type="checkbox"/> I have filled out Section 18, "Addendum for Streamline Applications." <input checked="" type="checkbox"/> N/A (This is not a Streamline application.) |
|---|--|

Section 1-H: Current Title V Information - Required for all applications from TV Sources

(Title V-source required information for all applications submitted pursuant to 20.2.72 NMAC (Minor Construction Permits), or 20.2.74/20.2.79 NMAC (Major PSD/NNSR applications), and/or 20.2.70 NMAC (Title V))

| | | | |
|---|--|---------------------|------------|
| 1 | Responsible Official (R.O.) (20.2.70.300.D.2 NMAC): N/A | | Phone: N/A |
| a | R.O. Title: N/A | R.O. e-mail: N/A | |
| b | R. O. Address: N/A | | |
| 2 | Alternate Responsible Official (20.2.70.300.D.2 NMAC): N/A | | Phone: N/A |
| a | A. R.O. Title: N/A | A. R.O. e-mail: N/A | |
| b | A. R. O. Address: N/A | | |
| 3 | Company's Corporate or Partnership Relationship to any other Air Quality Permittee (List the names of any companies that have operating (20.2.70 NMAC) permits and with whom the applicant for this permit has a corporate or partnership relationship): N/A | | |
| 4 | Name of Parent Company ("Parent Company" means the primary name of the organization that owns the company to be permitted wholly or in part.): N/A | | |
| a | Address of Parent Company: N/A | | |
| 5 | Names of Subsidiary Companies ("Subsidiary Companies" means organizations, branches, divisions or subsidiaries, which are owned, wholly or in part, by the company to be permitted.): N/A | | |
| 6 | Telephone numbers & names of the owners' agents and site contacts familiar with plant operations: N/A | | |

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| 7 | Affected Programs to include Other States, local air pollution control programs (i.e. Bernalillo) and Indian tribes: Will the property on which the facility is proposed to be constructed or operated be closer than 80 km (50 miles) from other states, local pollution control programs, and Indian tribes and pueblos (20.2.70.402.A.2 and 20.2.70.7.B)? If yes, state which ones and provide the distances in kilometers: No |
|---|---|

Section 1-I – Submittal Requirements

Each 20.2.73 NMAC (NOI), a 20.2.70 NMAC (Title V), a 20.2.72 NMAC (NSR minor source), or 20.2.74 NMAC (PSD) application package shall consist of the following:

Hard Copy Submittal Requirements:

- 1) One hard copy **original signed and notarized application package printed double sided 'head-to-toe' 2-hole punched** as we bind the document on top, not on the side; except Section 2 (landscape tables), which should be **head-to-head**. Please use **numbered tab separators** in the hard copy submittal(s) as this facilitates the review process. For NOI submittals only, hard copies of UA1, Tables 2A, 2D & 2F, Section 3 and the signed Certification Page are required. **Please include a copy of the check on a separate page.**
- 2) If the application is for a minor NSR, PSD, NNSR, or Title V application, include one working hard **copy** for Department use. This **copy** should be printed in book form, 3-hole punched, and **must be double sided**. Note that this is in addition to the head-to-toe 2-hole punched copy required in 1) above. Minor NSR Technical Permit revisions (20.2.72.219.B NMAC) only need to fill out Sections 1-A, 1-B, 3, and should fill out those portions of other Section(s) relevant to the technical permit revision. TV Minor Modifications need only fill out Sections 1-A, 1-B, 1-H, 3, and those portions of other Section(s) relevant to the minor modification. NMED may require additional portions of the application to be submitted, as needed.
- 3) The entire NOI or Permit application package, including the full modeling study, should be submitted electronically. Electronic files for applications for NOIs, any type of General Construction Permit (GCP), or technical revisions to NSRs must be submitted with compact disk (CD) or digital versatile disc (DVD). For these permit application submittals, **two CD** copies are required (in sleeves, not crystal cases, please), with additional CD copies as specified below. NOI applications require only a **single CD** submittal. Electronic files for other New Source Review (construction) permits/permit modifications or Title V permits/permit modifications can be submitted on CD/DVD or sent through AQB's secure file transfer service.

Electronic files sent by (check one):

☒ CD/DVD attached to paper application

☐ secure electronic transfer. Air Permit Contact Name _____

Email _____

Phone number _____

a. If the file transfer service is chosen by the applicant, after receipt of the application, the Bureau will email the applicant with instructions for submitting the electronic files through a secure file transfer service. Submission of the electronic files through the file transfer service needs to be completed within 3 business days after the invitation is received, so the applicant should ensure that the files are ready when sending the hard copy of the application. The applicant will not need a password to complete the transfer. **Do not use the file transfer service for NOIs, any type of GCP, or technical revisions to NSR permits.**

- 4) Optionally, the applicant may submit the files with the application on compact disk (CD) or digital versatile disc (DVD) following the instructions above and the instructions in 5 for applications subject to PSD review.
- 5) If **air dispersion modeling** is required by the application type, include the **NMED Modeling Waiver** and/or electronic air dispersion modeling report, input, and output files. The dispersion modeling **summary report only** should be submitted as hard copy(ies) unless otherwise indicated by the Bureau.
- 6) If the applicant submits the electronic files on CD and the application is subject to PSD review under 20.2.74 NMAC (PSD) or NNSR under 20.2.79 NMC include,
 - a. one additional CD copy for US EPA,
 - b. one additional CD copy for each federal land manager affected (NPS, USFS, FWS, USDI) and,
 - c. one additional CD copy for each affected regulatory agency other than the Air Quality Bureau.

If the application is submitted electronically through the secure file transfer service, these extra CDs do not need to be submitted.

Electronic Submittal Requirements [in addition to the required hard copy(ies)]:

- 1) All required electronic documents shall be submitted as 2 separate CDs or submitted through the AQB secure file transfer service. Submit a single PDF document of the entire application as submitted and the individual documents comprising the application.
- 2) The documents should also be submitted in Microsoft Office compatible file format (Word, Excel, etc.) allowing us to access the text and formulas in the documents (copy & paste). Any documents that cannot be submitted in a Microsoft Office compatible

| | | |
|---|---|---|
| b | Plant Operator's New Mexico Corporate ID or Tax ID: 13-4290880 | |
| 3 | Plant Owner(s) name(s): Fisher Sand & Gravel NM Inc. | Phone/Fax: 505-867-2600 / 505-867-1609 |
| a | Plant Owner(s) Mailing Address(s): PO Box 2340 Placitas, NM 87043 | |
| 4 | Bill To (Company): Fisher Sand & Gravel NM Inc. | Phone/Fax: 505-867-2600 / 505-867-1609 |
| a | Mailing Address: PO Box 2340 Placitas, NM 87043 | E-mail: bgambrel@fisherind.com |
| 5 | <input checked="" type="checkbox"/> Preparer: Martin R. Schluep <input checked="" type="checkbox"/> Consultant: Alliant Environmental, LLC | Phone/Fax: 505-205-4819 / 505-771-0793 |
| a | Mailing Address: 7804 Pan American Fwy., Suite 5, Albuquerque, NM 87109 | E-mail: mschluep@alliantenv.com |
| 6 | Plant Operator Contact: Brian Gambrel | Phone/Fax: 505-867-2600 / 505-867-1609 |
| a | Address: 30A Frontage Road East, Placitas, NM 87043 | E-mail: bgambrel@fisherind.com |
| 7 | Air Permit Contact: Brian Gambrel | Title: Project Manager |
| a | E-mail: bgambrel@fisherind.com | Phone/Fax: 505-867-2600 / 505-867-1609 |
| b | Mailing Address: PO Box 2340 Placitas, NM 87043 | |
| c | The designated Air permit Contact will receive all official correspondence (i.e. letters, permits) from the Air Quality Bureau. | |

Section 1-B: Current Facility Status

| | | |
|-----|---|---|
| 1.a | Has this facility already been constructed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | 1.b If yes to question 1.a, is it currently operating in New Mexico? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 2 | If yes to question 1.a, was the existing facility subject to a Notice of Intent (NOI) (20.2.73 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? <input type="checkbox"/> Yes <input type="checkbox"/> No |
| 3 | Is the facility currently shut down? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, give month and year of shut down (MM/YY): N/A |
| 4 | Was this facility constructed before 8/31/1972 and continuously operated since 1972? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | |
| 5 | If Yes to question 3, has this facility been modified (see 20.2.72.7.P NMAC) or the capacity increased since 8/31/1972? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A | |
| 6 | Does this facility have a Title V operating permit (20.2.70 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the permit No. is: N/A |
| 7 | Has this facility been issued a No Permit Required (NPR)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the NPR No. is: N/A |
| 8 | Has this facility been issued a Notice of Intent (NOI)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the NOI No. is: N/A |
| 9 | Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the permit No. is: N/A |
| 10 | Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If yes, the register No. is: N/A |

Section 1-C: Facility Input Capacity & Production Rate

| | | | | |
|---|--|------------------------|--------------------------|--------------------------------|
| 1 | What is the facility's maximum input capacity, specify units (reference here and list capacities in Section 20, if more room is required) | | | |
| a | Current | Hourly: N/A | Daily: N/A | Annually: N/A |
| b | Proposed | Hourly: 600 TPH | Daily: 14,400 TPD | Annually: 5,256,000 TPY |
| 2 | What is the facility's maximum production rate, specify units (reference here and list capacities in Section 20, if more room is required) | | | |

Table 2-A: Regulated Emission Sources

Unit and stack numbering must correspond throughout the application package. If applying for a NOI under 20.2.73 NMAC, equipment exemptions under 2.72.202 NMAC do not apply.

| Unit Number ¹ | Source Description | Make | Model # | Serial # | Maximum or Rated Capacity ³ (Specify Units) | Requested Permitted Capacity ³ (Specify Units) | Date of Manufacture ² | Controlled by Unit # | Source Classification Code (SCC) | For Each Piece of Equipment, Check One | RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴ | Replacing Unit No. |
|--------------------------|-----------------------------|------------|---------|----------|---|--|--|-----------------------------|----------------------------------|--|--|--------------------|
| | | | | | | | Date of Construction/Reconstruction ² | Emissions vented to Stack # | | | | |
| 1 | Loaded Truck Trips per hour | N/A | 5 | N/A | 5 Trucks/hr | 5 Trucks/hr | N/A | 14 | 30500290 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 2 | Storage Pile 1 | N/A | N/A | N/A | 200 TPH | 200 TPH | N/A | 15 | 30500203 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 3 | Storage Pile 2 | N/A | N/A | N/A | 125 TPH | 125 TPH | N/A | 16 | 30500203 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 4 | Storage Pile 3 | N/A | N/A | N/A | 125 TPH | 125 TPH | N/A | 17 | 30500203 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 5 | Storage Pile 4 | N/A | N/A | N/A | 125 TPH | 125 TPH | N/A | 18 | 30500203 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 6 | Oversized Feeder | GSS | 4250 | N/A | 400 TPH | 400 TPH | 2006 | 20 | 30500298 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 7 | Deck Screen | JCI | 3620 | N/A | 200 TPH | 200 TPH | 1990 | 21 | 30502015 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 8 | Jaw Crusher | Pioneer | 2854 | N/A | 200 TPH | 200 TPH | 1996 | 22 | 30502001 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 9 | Feeder | GSS | DT 4853 | N/A | 200 TPH | 200 TPH | 2006 | 23 | 30500298 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 10 | Jaw Screen | JCI | 3620 | N/A | 400 TPH | 400 TPH | 2008 | 24 | 30502015 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 11 | Deck Screen | JCI | 3620 | N/A | 200 TPH | 200 TPH | 2008 | 25 | 30502015 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 12 | Cone Crusher | JCI | 1400RA | N/A | 200 TPH | 200 TPH | 1999 | 26 | 30502001 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 13 | Cone Crusher | Texas | 500 DVG | N/A | 200 TPH | 200 TPH | 2002 | 27 | 30502001 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 14 | Cone Crusher | Inertia | HSI 506 | N/A | 200 TPH | 200 TPH | 1999 | 28 | 30502001 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 15 | Deck Screen | JCI | 3720 | N/A | 200 TPH | 200 TPH | 1990 | 29 | 30502015 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 16 | Deck Screen | JCI Tandem | 3620 | N/A | 200 TPH | 200 TPH | 2008 | 30 | 30502015 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |
| 17 | Deck Screen | JCI Tandem | 3620 | N/A | 200 TPH | 200 TPH | 2008 | 31 | 30502015 | <input type="checkbox"/> Existing (unchanged) <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> To Be Modified | <input type="checkbox"/> To be Removed <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To be Replaced | |

| Unit Number ¹ | Source Description | Make | Model # | Serial # | Maximum or Rated Capacity ³ (Specify Units) | Requested Permitted Capacity ³ (Specify Units) | Date of Manufacture ² | Controlled by Unit # | Source Classification Code (SCC) | For Each Piece of Equipment, Check One | RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB) ⁴ | Replacing Unit No. |
|--------------------------|----------------------|-------------|----------|----------|---|--|--|-----------------------------|----------------------------------|---|---|--------------------|
| | | | | | | | Date of Construction/ Reconstruction ² | Emissions vented to Stack # | | | | |
| 18-37 | Conveyors (20 total) | Fisher S&G | Various | N/A | 125-200 TPH | 125-200 TPH | Various | 32-51 | 30502006 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced | | |
| | | | | | | | Various | N/A | | | | |
| 38 | Generator | Cummins | QSK50-G4 | 37270082 | 1100 kW | 1100 kW | 2017 | N/A | 20200102 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced | CI | |
| | | | | | | | 2017 | 38 | | | | |
| 39 | Generator | Caterpillar | 3406 | 3ER03634 | 298 kW | 298 kW | 1999 | N/A | 20200102 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced | CI | |
| | | | | | | | 1999 | 39 | | | | |
| 40 | Generator | Caterpillar | C15 | JRE02308 | 535 kW | 535 kW | 2006 | N/A | 20200102 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced | CI | |
| | | | | | | | 2006 | 40 | | | | |

¹ Unit numbers must correspond to unit numbers in the previous permit unless a complete cross reference table of all units in both permits is provided.

² Specify dates required to determine regulatory applicability.

³ To properly account for power conversion efficiencies, generator set rated capacity shall be reported as the rated capacity of the engine in horsepower, not the kilowatt capacity of the generator set.

⁴ "4SLB" means four stroke lean burn engine, "4SRB" means four stroke rich burn engine, "2SLB" means two stroke lean burn engine, "CI" means compression ignition, and "SI" means spark ignition

Table 2-B: Insignificant Activities¹ (20.2.70 NMAC) OR Exempted Equipment (20.2.72 NMAC)

All 20.2.70 NMAC (Title V) applications must list all Insignificant Activities in this table. All 20.2.72 NMAC applications must list Exempted Equipment in this table. If equipment listed on this table is exempt under 20.2.72.202.B.5, include emissions calculations and emissions totals for 202.B.5 "similar functions" units, operations, and activities in Section 6, Calculations. Equipment and activities exempted under 20.2.72.202 NMAC may not necessarily be Insignificant under 20.2.70 NMAC (and vice versa). Unit & stack numbering must be consistent throughout the application package. Per Exemptions Policy 02-012.00 (see http://www.env.nm.gov/aqb/permit/aqb_pol.html), 20.2.72.202.B NMAC Exemptions do not apply, but 20.2.72.202.A NMAC exemptions do apply to NOI facilities under 20.2.73 NMAC. List 20.2.72.301.D.4 NMAC Auxiliary Equipment for Streamline applications in Table 2-A. The List of Insignificant Activities (for TV) can be found online at <http://www.env.nm.gov/aqb/forms/InsignificantListTitleV.pdf>. TV sources may elect to enter both TV Insignificant Activities and Part 72 Exemptions on this form.

| Unit Number | Source Description | Manufacturer | Model No. | Max Capacity | List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) | Date of Manufacture /Reconstruction ² | For Each Piece of Equipment, Check Once |
|-------------|--|--------------|------------|----------------|--|---|---|
| | | | Serial No. | Capacity Units | Insignificant Activity citation (e.g. IA List Item #1.a) | Date of Installation /Construction ² | |
| T1 | Diesel Fuel Tank for Crusher Equipment | N/A | N/A | 10,000 | 20.2.72.202.B.2.a | 1992 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
| | | | N/A | Gallons | #1.a. | 1992 | |
| T2 | Water Tank for Crusher Equipment | N/A | N/A | 10,000 | 20.2.72.202.B.2.a | 1992 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
| | | | N/A | Gallons | #1.a. | 1992 | |
| T3 | Diesel Tank for Crusher Equipment | N/A | N/A | 1,500 | 20.2.72.202.B.2.a | 1992 | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input checked="" type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
| | | | N/A | Gallons | #1.a. | 1992 | |
| | | | | | | | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
| | | | | | | | |
| | | | | | | | <input type="checkbox"/> Existing (unchanged) <input type="checkbox"/> To be Removed <input type="checkbox"/> New/Additional <input type="checkbox"/> Replacement Unit <input type="checkbox"/> To Be Modified <input type="checkbox"/> To be Replaced |
| | | | | | | | |

¹ Insignificant activities exempted due to size or production rate are defined in 20.2.70.300.D.6, 20.2.70.7.Q NMAC, and the NMED/AQB List of Insignificant Activities, dated September 15, 2008. Emissions from these insignificant activities do not need to be reported, unless specifically requested.

² Specify date(s) required to determine regulatory applicability.

Table 2-C: Emissions Control Equipment

Unit and stack numbering must correspond throughout the application package. Only list control equipment for TAPs if the TAP's maximum uncontrolled emissions rate is over its respective threshold as listed in 20.2.72 NMAC, Subpart V, Tables A and B. In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device regardless if the applicant takes credit for the reduction in emissions.

| Control Equipment Unit No. | Control Equipment Description | Date Installed | Controlled Pollutant(s) | Controlling Emissions for Unit Number(s) ¹ | Efficiency (% Control by Weight) | Method used to Estimate Efficiency |
|----------------------------|--|----------------|-------------------------|---|----------------------------------|------------------------------------|
| 1 | Base Course and Water Spray (Watering) | 2022 | PM | 1 | 80% | AP-42 13.2-2 and NMED Policy |
| 2 | Water Spray | 2022 | PM | 2 | 90% | AP-42 Table 13.2.4.4 |
| 3 | Water Spray | 2022 | PM | 3 | 90% | AP-42 Table 13.2.4.4 |
| 4 | Water Spray | 2022 | PM | 4 | 90% | AP-42 Table 13.2.4.4 |
| 5 | Water Spray | 2022 | PM | 5 | 90% | AP-42 Table 13.2.4.4 |
| 6 | Water Spray/moisture carryover | 2022 | PM | 6 | 90% | AP-42 Table 13.2.4.4 |
| 7 | Water Spray/moisture carryover | 2022 | PM | 7 | 91.5% | AP-42 Table 11.19.2 2 |
| 8 | Water Spray | 2022 | PM | 8 | 77.5% | AP-42 Table 11.19.2 2 |
| 9 | Water Spray | 2022 | PM | 9 | 90% | AP-42 Table 13.2.4.4 |
| 10 | Water Spray | 2022 | PM | 10 | 91.5% | AP-42 Table 11.19.2 2 |
| 11 | Water Spray | 2022 | PM | 11 | 91.5% | AP-42 Table 11.19.2 2 |
| 12 | Water Spray | 2022 | PM | 12 | 77.5% | AP-42 Table 11.19.2 2 |
| 13 | Water Spray | 2022 | PM | 13 | 77.5% | AP-42 Table 11.19.2 2 |
| 14 | Water Spray | 2022 | PM | 14 | 77.5% | AP-42 Table 11.19.2 2 |
| 15 | Water Spray | 2022 | PM | 15 | 91.50% | AP-42 Table 11.19.2 2 |
| 16 | Water Spray | 2022 | PM | 16 | 91.5% | AP-42 Table 11.19.2 2 |
| 17 | Water Spray | 2022 | PM | 17 | 91.5% | AP-42 Table 11.19.2 2 |
| 18-37 | Water Spray/moisture carryover | 2022 | PM | 18-37 | 95.8% | AP-42 Table 11.19.2 2 |

¹ List each control device on a separate line. For each control device, list all emission units controlled by the control device.

Table 2-D: Maximum Emissions (under normal operating conditions)

☐ **This Table was intentionally left blank because it would be identical to Table 2-E.**

Maximum Emissions are the emissions at maximum capacity and prior to (in the absence of) pollution control, emission-reducing process equipment, or any other emission reduction. Calculate the hourly emissions using the worst case hourly emissions for each pollutant. For each pollutant, calculate the annual emissions as if the facility were operating at maximum plant capacity without pollution controls for 8760 hours per year, unless otherwise approved by the Department. List Hazardous Air Pollutants (HAP) & Toxic Air Pollutants (TAPs) in Table 2-I. Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E-4).

| Unit No. | NOx | | CO | | VOC | | SOx | | PM10 ¹ | | PM2.5 ¹ | | H ₂ S | | Lead | |
|---------------|-------|--------|-------|--------|-------|--------|-------|--------|-------------------|--------|--------------------|--------|------------------|--------|-------|--------|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| 1 | -- | -- | -- | -- | -- | -- | -- | -- | 6.19 | 21.90 | 0.62 | 2.19 | -- | -- | -- | -- |
| 2 | -- | -- | -- | -- | -- | -- | -- | -- | 0.45 | 1.96 | 0.07 | 0.30 | -- | -- | -- | -- |
| 3 | -- | -- | -- | -- | -- | -- | -- | -- | 0.28 | 1.22 | 0.04 | 0.19 | -- | -- | -- | -- |
| 4 | -- | -- | -- | -- | -- | -- | -- | -- | 0.28 | 1.22 | 0.04 | 0.19 | -- | -- | -- | -- |
| 5 | -- | -- | -- | -- | -- | -- | -- | -- | 0.28 | 1.22 | 0.04 | 0.19 | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- | -- | -- | -- | -- | 0.89 | 3.91 | 0.14 | 0.59 | -- | -- | -- | -- |
| 7 | -- | -- | -- | -- | -- | -- | -- | -- | 1.74 | 7.62 | 1.74 | 7.62 | -- | -- | -- | -- |
| 8 | -- | -- | -- | -- | -- | -- | -- | -- | 0.48 | 2.10 | 0.48 | 2.10 | -- | -- | -- | -- |
| 9 | -- | -- | -- | -- | -- | -- | -- | -- | 0.45 | 1.96 | 0.07 | 0.30 | -- | -- | -- | -- |
| 10 | -- | -- | -- | -- | -- | -- | -- | -- | 3.48 | 15.24 | 3.48 | 15.24 | -- | -- | -- | -- |
| 11 | -- | -- | -- | -- | -- | -- | -- | -- | 1.74 | 7.62 | 1.74 | 7.62 | -- | -- | -- | -- |
| 12 | -- | -- | -- | -- | -- | -- | -- | -- | 0.48 | 2.10 | 0.48 | 2.10 | -- | -- | -- | -- |
| 13 | -- | -- | -- | -- | -- | -- | -- | -- | 0.48 | 2.10 | 0.48 | 2.10 | -- | -- | -- | -- |
| 14 | -- | -- | -- | -- | -- | -- | -- | -- | 0.48 | 2.10 | 0.48 | 2.10 | -- | -- | -- | -- |
| 15 | -- | -- | -- | -- | -- | -- | -- | -- | 1.74 | 7.62 | 1.74 | 7.62 | -- | -- | -- | -- |
| 16 | -- | -- | -- | -- | -- | -- | -- | -- | 1.74 | 7.62 | 1.74 | 7.62 | -- | -- | -- | -- |
| 17 | -- | -- | -- | -- | -- | -- | -- | -- | 1.74 | 7.62 | 1.74 | 7.62 | -- | -- | -- | -- |
| 18-37 | -- | -- | -- | -- | -- | -- | -- | -- | 4.40 | 19.27 | 4.40 | 19.27 | -- | -- | -- | -- |
| 38 | 2.63 | 11.52 | 1.05 | 4.60 | 0.46 | 2.02 | 0.60 | 2.61 | 0.10 | 0.42 | 0.10 | 0.42 | -- | -- | -- | -- |
| 39 | 6.04 | 26.47 | 7.49 | 32.80 | 0.85 | 3.74 | 0.82 | 3.59 | 0.35 | 1.55 | 0.35 | 1.55 | -- | -- | -- | -- |
| 40 | 3.30 | 14.47 | 4.13 | 18.08 | 1.42 | 6.20 | 0.29 | 1.27 | 0.24 | 1.03 | 0.24 | 1.03 | -- | -- | -- | -- |
| Totals | 12.0 | 52.5 | 12.7 | 55.5 | 2.7 | 12.0 | 1.7 | 7.5 | 28.0 | 117.4 | 20.2 | 88.0 | 0.0 | 0.0 | 0.0 | 0.0 |

¹ **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but PM is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-E: Requested Allowable Emissions

Unit & stack numbering must be consistent throughout the application package. Fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected. Numbers shall be expressed to at least 2 decimal points (e.g. 0.41, 1.41, or 1.41E⁻⁴).

| Unit No. | NO _x | | CO | | VOC | | SO _x | | PM10 ¹ | | PM2.5 ¹ | | H ₂ S | | Lead | |
|---------------|-----------------|--------|-------|--------|-------|--------|-----------------|--------|-------------------|--------|--------------------|--------|------------------|--------|-------|--------|
| | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| 1 | -- | -- | -- | -- | -- | -- | -- | -- | 1.24 | 4.38 | 0.12 | 0.44 | -- | -- | -- | -- |
| 2 | -- | -- | -- | -- | -- | -- | -- | -- | 0.04 | 0.20 | 0.01 | 0.03 | -- | -- | -- | -- |
| 3 | -- | -- | -- | -- | -- | -- | -- | -- | 0.03 | 0.12 | 0.004 | 0.02 | -- | -- | -- | -- |
| 4 | -- | -- | -- | -- | -- | -- | -- | -- | 0.03 | 0.12 | 0.004 | 0.02 | -- | -- | -- | -- |
| 5 | -- | -- | -- | -- | -- | -- | -- | -- | 0.03 | 0.12 | 0.004 | 0.02 | -- | -- | -- | -- |
| 6 | -- | -- | -- | -- | -- | -- | -- | -- | 0.09 | 0.39 | 0.01 | 0.06 | -- | -- | -- | -- |
| 7 | -- | -- | -- | -- | -- | -- | -- | -- | 0.15 | 0.65 | 0.01 | 0.04 | -- | -- | -- | -- |
| 8 | -- | -- | -- | -- | -- | -- | -- | -- | 0.11 | 0.47 | 0.02 | 0.09 | -- | -- | -- | -- |
| 9 | -- | -- | -- | -- | -- | -- | -- | -- | 0.04 | 0.20 | 0.01 | 0.03 | -- | -- | -- | -- |
| 10 | -- | -- | -- | -- | -- | -- | -- | -- | 0.30 | 1.30 | 0.02 | 0.09 | -- | -- | -- | -- |
| 11 | -- | -- | -- | -- | -- | -- | -- | -- | 0.15 | 0.65 | 0.01 | 0.04 | -- | -- | -- | -- |
| 12 | -- | -- | -- | -- | -- | -- | -- | -- | 0.11 | 0.47 | 0.02 | 0.09 | -- | -- | -- | -- |
| 13 | -- | -- | -- | -- | -- | -- | -- | -- | 0.11 | 0.47 | 0.02 | 0.09 | -- | -- | -- | -- |
| 14 | -- | -- | -- | -- | -- | -- | -- | -- | 0.11 | 0.47 | 0.02 | 0.09 | -- | -- | -- | -- |
| 15 | -- | -- | -- | -- | -- | -- | -- | -- | 0.15 | 0.65 | 0.01 | 0.04 | -- | -- | -- | -- |
| 16 | -- | -- | -- | -- | -- | -- | -- | -- | 0.15 | 0.65 | 0.01 | 0.04 | -- | -- | -- | -- |
| 17 | -- | -- | -- | -- | -- | -- | -- | -- | 0.15 | 0.65 | 0.01 | 0.04 | -- | -- | -- | -- |
| 18-37 | -- | -- | -- | -- | -- | -- | -- | -- | 0.18 | 0.81 | 0.05 | 0.23 | -- | -- | -- | -- |
| 38 | 2.63 | 11.52 | 1.05 | 4.60 | 0.46 | 2.02 | 0.60 | 2.61 | 0.10 | 0.42 | 0.10 | 0.42 | -- | -- | -- | -- |
| 39 | 6.04 | 26.47 | 7.49 | 32.80 | 0.85 | 3.74 | 0.82 | 3.59 | 0.35 | 1.55 | 0.35 | 1.55 | -- | -- | -- | -- |
| 40 | 3.30 | 14.47 | 4.13 | 18.08 | 1.42 | 6.20 | 0.29 | 1.27 | 0.24 | 1.03 | 0.24 | 1.03 | -- | -- | -- | -- |
| Totals | 11.98 | 52.46 | 12.67 | 55.48 | 2.73 | 11.96 | 1.71 | 7.48 | 3.84 | 15.78 | 1.05 | 4.51 | 0.00 | 0.00 | 0.000 | 0.000 |

¹ **Condensable Particulate Matter:** Include condensable particulate matter emissions for PM10 and PM2.5 if the source is a combustion source. Do not include condensable particulate matter for PM unless PM is set equal to PM10 and PM2.5. Particulate matter (PM) is not subject to an ambient air quality standard, but it is a regulated air pollutant under PSD (20.2.74 NMAC) and Title V (20.2.70 NMAC).

Table 2-G: Stack Exit and Fugitive Emission Rates for Special Stacks

☒ I have elected to leave this table blank because this facility does not have any stacks/vents that split emissions from a single source or combine emissions from more than one source listed in table 2-A. Additionally, the emission rates of all stacks match the Requested allowable emission rates stated in Table 2-E.

Use this table to list stack emissions (requested allowable) from split and combined stacks. List Toxic Air Pollutants (TAPs) and Hazardous Air Pollutants (HAPs) in Table 2-I. List all fugitives that are associated with the normal, routine, and non-emergency operation of the facility. Unit and stack numbering must correspond throughout the application package. Refer to Table 2-E for instructions on use of the “-“ symbol and on significant figures.

| Stack No. | Serving Unit Number(s) from Table 2-A | NOx | | CO | | VOC | | SOx | | PM | | PM10 | | PM2.5 | | <input type="checkbox"/> H ₂ S or <input type="checkbox"/> Lead | |
|----------------|---|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|--|--------|
| | | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
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| Totals: | | | | | | | | | | | | | | | | | |

Table 2-H: Stack Exit Conditions

Unit and stack numbering must correspond throughout the application package. Include the stack exit conditions for each unit that emits from a stack, including blowdown venting parameters and tank emissions. If the facility has multiple operating scenarios, complete a separate Table 2-H for each scenario and, for each, type scenario name here:

| Stack Number | Serving Unit Number(s) from Table 2-A | Orientation (H=Horizontal V=Vertical) | Rain Caps (Yes or No) | Height Above Ground (ft) | Temp. (F) | Flow Rate | | Moisture by Volume (%) | Velocity (ft/sec) | Inside Diameter (ft) |
|--------------|---------------------------------------|---|--------------------------|-----------------------------|--------------|-----------|---------|------------------------------|----------------------|-------------------------|
| | | | | | | (acfm) | (dscfm) | | | |
| 38 | 38 | V | No | 12 | 810 | 4188 | | N/A | 158 | 0.75 |
| 39 | 39 | V | No | 12 | 379 | 1237 | | N/A | 105 | 0.5 |
| 40 | 40 | V | No | 12 | 704 | 1018 | | N/A | 135 | 0.4 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Table 2-I: Stack Exit and Fugitive Emission Rates for HAPs and TAPs

In the table below, report the Potential to Emit for each HAP from each regulated emission unit listed in Table 2-A, only if the entire facility emits the HAP at a rate greater than or equal to one (1) ton per year. For each such emission unit, HAPs shall be reported to the nearest 0.1 tpy. Each facility-wide Individual HAP total and the facility-wide Total HAPs shall be the sum of all HAP sources calculated to the nearest 0.1 ton per year. Per 20.2.72.403.A.1 NMAC, facilities not exempt [see 20.2.72.402.C NMAC] from TAP permitting shall report each TAP that has an uncontrolled emission rate in excess of its pounds per hour screening level specified in 20.2.72.502 NMAC. TAPs shall be reported using one more significant figure than the number of significant figures shown in the pound per hour threshold corresponding to the substance. Use the HAP nomenclature as it appears in Section 112 (b) of the 1990 CAAA and the TAP nomenclature as it listed in 20.2.72.502 NMAC. Include tank-flashing emissions estimates of HAPs in this table. For each HAP or TAP listed, fill all cells in this table with the emission numbers or a "-" symbol. A "--" symbol indicates that emissions of this pollutant are not expected or the pollutant is emitted in a quantity less than the threshold amounts described above.

| Stack No. | Unit No.(s) | Total HAPs | | Formaldehyde √ HAP or □ TAP | | Benzene √ HAP or □ TAP | | Acetaldehyde √ HAP or □ TAP | | Naphthalene √ HAP or □ TAP | | Toluene √ HAP or □ TAP | | Xylene √ HAP or □ TAP | | Acrolein √ HAP or □ TAP | | Provide Pollutant Name Here □ HAP or □ TAP | |
|----------------|-------------|------------|--------|--------------------------------|--------|---------------------------|--------|--------------------------------|--------|-------------------------------|--------|---------------------------|--------|--------------------------|--------|----------------------------|---------|--|--------|
| | | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr | lb/hr | ton/yr |
| 38 | 38 | 0.01 | 0.02 | 0.000 | 0.0012 | 0.003 | 0.012 | 0.0001 | 0.0004 | 0.000 | 0.002 | 0.001 | 0.004 | 0.001 | 0.003 | 2.8E-05 | 0.00012 | | |
| 39 | 39 | 0.005 | 0.02 | 0.002 | 0.007 | 0.001 | 0.0053 | 0.001 | 0.0043 | 0.0001 | 0.0005 | 0.0005 | 0.0023 | 0.0004 | 0.0016 | 0.00012 | 0.00052 | | |
| 40 | 40 | 0.002 | 0.01 | 0.0001 | 0.0004 | 0.001 | 0.0044 | 0.0000 | 0.0001 | 0.0002 | 0.0007 | 0.0004 | 0.0016 | 0.0002 | 0.0011 | 1E-05 | 4.4E-05 | | |
| Totals: | | 0.01 | 0.05 | 0.00 | 0.01 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | | |

Table 2-J: Fuel

Specify fuel characteristics and usage. Unit and stack numbering must correspond throughout the application package.

| Unit No. | Fuel Type (low sulfur Diesel, ultra low sulfur diesel, Natural Gas, Coal, ...) | Fuel Source: purchased commercial, pipeline quality natural gas, residue gas, raw/field natural gas, process gas (e.g. SRU tail gas) or other | Specify Units | | | | |
|----------|--|---|---------------------|--------------|-----------------|----------|-------|
| | | | Lower Heating Value | Hourly Usage | Annual Usage | % Sulfur | % Ash |
| 38 | Diesel | Purchased | 128,000 Btu/gallon | 27.8 Gallons | 243,528 Gallons | 0.05 | N/A |
| 39 | Diesel | Purchased | 128,000 Btu/gallon | 10 Gallons | 87,600 Gallons | 0.05 | N/A |
| 40 | Diesel | Purchased | 128,000 Btu/gallon | 10 Gallons | 87,600 Gallons | 0.05 | N/A |
| | | | | | | | |

Table 2-K: Liquid Data for Tanks Listed in Table 2-L

For each tank, list the liquid(s) to be stored in each tank. If it is expected that a tank may store a variety of hydrocarbon liquids, enter "mixed hydrocarbons" in the Composition column for that tank and enter the corresponding data of the most volatile liquid to be stored in the tank. If tank is to be used for storage of different materials, list all the materials in the "All Calculations" attachment, run the newest version of TANKS on each, and use the material with the highest emission rate to determine maximum uncontrolled and requested allowable emissions rate. The permit will specify the most volatile category of liquids that may be stored in each tank. Include appropriate tank-flashing modeling input data. Use additional sheets if necessary. Unit and stack numbering must correspond throughout the application package.

| Tank No. | SCC Code | Material Name | Composition | Liquid Density (lb/gal) | Vapor Molecular Weight (lb/lb*mol) | Average Storage Conditions | | Max Storage Conditions | |
|----------|----------|---------------|-------------|-------------------------|------------------------------------|----------------------------|----------------------------|------------------------|----------------------------|
| | | | | | | Temperature (°F) | True Vapor Pressure (psia) | Temperature (°F) | True Vapor Pressure (psia) |
| T1 | 30500298 | Diesel Fuel | Diesel Fuel | 6.9 | 130 | 60 | 0.006 | 73 | 0.008 |
| T2 | 30500298 | Water | Water | 8.34 | 0.04 | N/A | N/A | N/A | N/A |
| T3 | 30500298 | Diesel Fuel | Diesel | 6.9 | 130 | 60 | 0.006 | 73 | 0.008 |
| | | | | | | | | | |
| | | | | | | | | | |

Table 2-L: Tank Data

Include appropriate tank-flashing modeling input data. Use an addendum to this table for unlisted data categories. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary. See reference Table 2-L2. Note: 1.00 bbl = 10.159 M3 = 42.0 gal

| Tank No. | Date Installed | Materials Stored | Seal Type (refer to Table 2-LR below) | Roof Type (refer to Table 2-LR below) | Capacity | | Diameter (M) | Vapor Space (M) | Color (from Table VI-C) | | Paint Condition (from Table VI-C) | Annual Throughput (gal/yr) | Turn-overs (per year) |
|----------|----------------|------------------|--|--|----------|-------------------|-----------------|--------------------|----------------------------|----------|--------------------------------------|-------------------------------|--------------------------|
| | | | | | (bbl) | (M ³) | | | Roof | Shell | | | |
| T1 | 2022 | Diesel Fuel | N/A | FX | 240 | 38 | 3 | 0.2 | OT (tan) | OT (tan) | Good | 60,000 | 6 |
| T2 | 2022 | Water | N/A | FX | 220 | 35 | 3.7 | 0.2 | OT (tan) | OT (tan) | Good | N/A | N/A |
| T3 | 2022 | Diesel Fuel | N/A | FX | 36 | 6 | 1.9 | 0.2 | OT (tan) | OT (tan) | Good | 10,000 | 7 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Table 2-L2: Liquid Storage Tank Data Codes Reference Table

| Roof Type | Seal Type, Welded Tank Seal Type | | Seal Type, Riveted Tank Seal Type | | Roof, Shell Color | Paint Condition |
|--|----------------------------------|--------------------------------------|-------------------------------------|---|--------------------------------|-----------------|
| FX: Fixed Roof | Mechanical Shoe Seal | Liquid-mounted resilient seal | Vapor-mounted resilient seal | Seal Type | WH: White | Good |
| IF: Internal Floating Roof | A: Primary only | A: Primary only | A: Primary only | A: Mechanical shoe, primary only | AS: Aluminum (specular) | Poor |
| EF: External Floating Roof | B: Shoe-mounted secondary | B: Weather shield | B: Weather shield | B: Shoe-mounted secondary | AD: Aluminum (diffuse) | |
| P: Pressure | C: Rim-mounted secondary | C: Rim-mounted secondary | C: Rim-mounted secondary | C: Rim-mounted secondary | LG: Light Gray | |
| Note: 1.00 bbl = 0.159 M ³ = 42.0 gal | | | | | MG: Medium Gray | |
| | | | | | BL: Black | |
| | | | | | OT: Other (specify) | |
| | | | | | | |

Table 2-M: Materials Processed and Produced (Use additional sheets as necessary.)

| Material Processed | | | | Material Produced | | | |
|--------------------|----------------------|----------------------------------|--------------------------|-------------------|----------------------|-------|-----------------------------|
| Description | Chemical Composition | Phase (Gas, Liquid, or Solid) | Quantity (specify units) | Description | Chemical Composition | Phase | Quantity (specify units) |
| Aggregate/Dirt | Aggregate/Dirt | Solid | 400 TPH | Aggregate | Aggregate, | Solid | 300 TPH |
| | | | | | | | |
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Table 2-N: CEM Equipment

Enter Continuous Emissions Measurement (CEM) Data in this table. If CEM data will be used as part of a federally enforceable permit condition, or used to satisfy the requirements of a state or federal regulation, include a copy of the CEM's manufacturer specification sheet in the Information Used to Determine Emissions attachment. Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

| Stack No. | Pollutant(s) | Manufacturer | Model No. | Serial No. | Sample Frequency | Averaging Time | Range | Sensitivity | Accuracy |
|----------------|--------------|--------------|-----------|------------|------------------|----------------|-------|-------------|----------|
| Not applicable | | | | | | | | | |
| | | | | | | | | | |
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Table 2-O: Parametric Emissions Measurement Equipment

Unit and stack numbering must correspond throughout the application package. Use additional sheets if necessary.

| Unit No. | Parameter/Pollutant Measured | Location of Measurement | Unit of Measure | Acceptable Range | Frequency of Maintenance | Nature of Maintenance | Method of Recording | Averaging Time |
|----------------|------------------------------|-------------------------|-----------------|------------------|--------------------------|-----------------------|---------------------|----------------|
| Not applicable | | | | | | | | |
| | | | | | | | | |
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Table 2-P: Greenhouse Gas Emissions

Applications submitted under 20.2.70, 20.2.72, & 20.2.74 NMAC are required to complete this Table. Power plants, Title V major sources, and PSD major sources must report and calculate all GHG emissions for each unit. Applicants must report potential emission rates in short tons per year (see Section 6.a for assistance). Include GHG emissions during Startup, Shutdown, and Scheduled Maintenance in this table. For minor source facilities that are not power plants, are not Title V, or are not PSD, there are three options for reporting GHGs 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHG as a second separate unit; OR 3) check the following box ☐ By checking this box, the applicant acknowledges the total CO₂e emissions are less than 75,000 tons per year.

| | | CO ₂ ton/yr | N ₂ O ton/yr | CH ₄ ton/yr | SF ₆ ton/yr | PFC/HFC ton/yr ² | | | | | | | | | Total GHG Mass Basis ton/yr ⁴ | Total CO ₂ e ton/yr ⁵ |
|----------|-------------------|------------------------|-------------------------|------------------------|------------------------|-----------------------------|--|--|--|--|--|--|--|--|--|---|
| Unit No. | GWPs ¹ | 1 | 298 | 25 | 22,800 | footnote 3 | | | | | | | | | | |
| 38 | mass GHG | 2,941.02 | 0.02 | 0.12 | -- | -- | | | | | | | | | 2,941.2 | |
| | CO ₂ e | 2,941.02 | 7.01 | 2.94 | -- | -- | | | | | | | | | | 2,951.0 |
| 39 | mass GHG | 1,057.92 | 0.01 | 0.04 | -- | -- | | | | | | | | | 1,058.0 | |
| | CO ₂ e | 1,057.92 | 2.52 | 1.06 | -- | -- | | | | | | | | | | 1,061.5 |
| 40 | mass GHG | 1,057.92 | 0.01 | 0.04 | -- | -- | | | | | | | | | 1,057.97 | |
| | CO ₂ e | 1,057.92 | 2.52 | 1.06 | -- | -- | | | | | | | | | | 1061.50 |
| Total | mass GHG | 5,056.9 | 0.0 | 0.2 | -- | -- | | | | | | | | | 5,057.1 | |
| | CO ₂ e | 5,056.9 | 12.0 | 5.1 | -- | -- | | | | | | | | | | 5,074.0 |

¹ GWP (Global Warming Potential): Applicants must use the most current GWPs codified in Table A-1 of 40 CFR part 98. GWPs are subject to change, therefore, applicants need to check 40 CFR 98 to confirm GWP values.

² For HFCs or PFCs describe the specific HFC or PFC compound and use a separate column for each individual compound.

³ For each new compound, enter the appropriate GWP for each HFC or PFC compound from Table A-1 in 40 CFR 98.

⁴ Green house gas emissions on a **mass basis** is the ton per year green house gas emission before adjustment with its GWP.

⁵ CO₂e means Carbon Dioxide Equivalent and is calculated by multiplying the TPY mass emissions of the green house gas by its GWP.

Section 3

Application Summary

The **Application Summary** shall include a brief description of the facility and its process, the type of permit application, the applicable regulation (i.e. 20.2.72.200.A.X, or 20.2.73 NMAC) under which the application is being submitted, and any air quality permit numbers associated with this site. If this facility is to be collocated with another facility, provide details of the other facility including permit number(s). In case of a revision or modification to a facility, provide the lowest level regulatory citation (i.e. 20.2.72.219.B.1.d NMAC) under which the revision or modification is being requested. Also describe the proposed changes from the original permit, how the proposed modification will affect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

The **Process Summary** shall include a brief description of the facility and its processes.

Startup, Shutdown, and Maintenance (SSM) routine or predictable emissions: Provide an overview of how SSM emissions are accounted for in this application. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Fisher Sand & Gravel NM Inc. (Fisher) will own and operate the aggregate Crusher Plant (Plant) which will be located in Torrance County, NM. Fisher Sand & Gravel NM Inc. is submitting this application to the New Mexico Environment Department (NMED) as an air quality New Source Review (NSR) permit application under 20.2.72.200 NMAC.

The Crusher Plant will consist of a feeder, screen(s), crusher(s), multiple conveyors, and diesel-fired generator engines to power the crusher plant and will be permitted to operate with a production feeder and jaw crusher limit of 400 tons per hour and crushing and screening limited to 200 tons per hours. The requested annual hours of operation are 8,760 hours per year.

Haul truck traffic (haul road emissions) will be controlled with base course and watering.

No SSM emissions are proposed or submitted for this facility. For equipment at the Plant, Fisher will follow normal industry practices in minimizing emissions during start-up, shutdown, and maintenance to not exceed the maximum hourly or annual emission rates submitted in Table 2-E. All control equipment and methods will be functioning correctly prior to processing.

Section 4

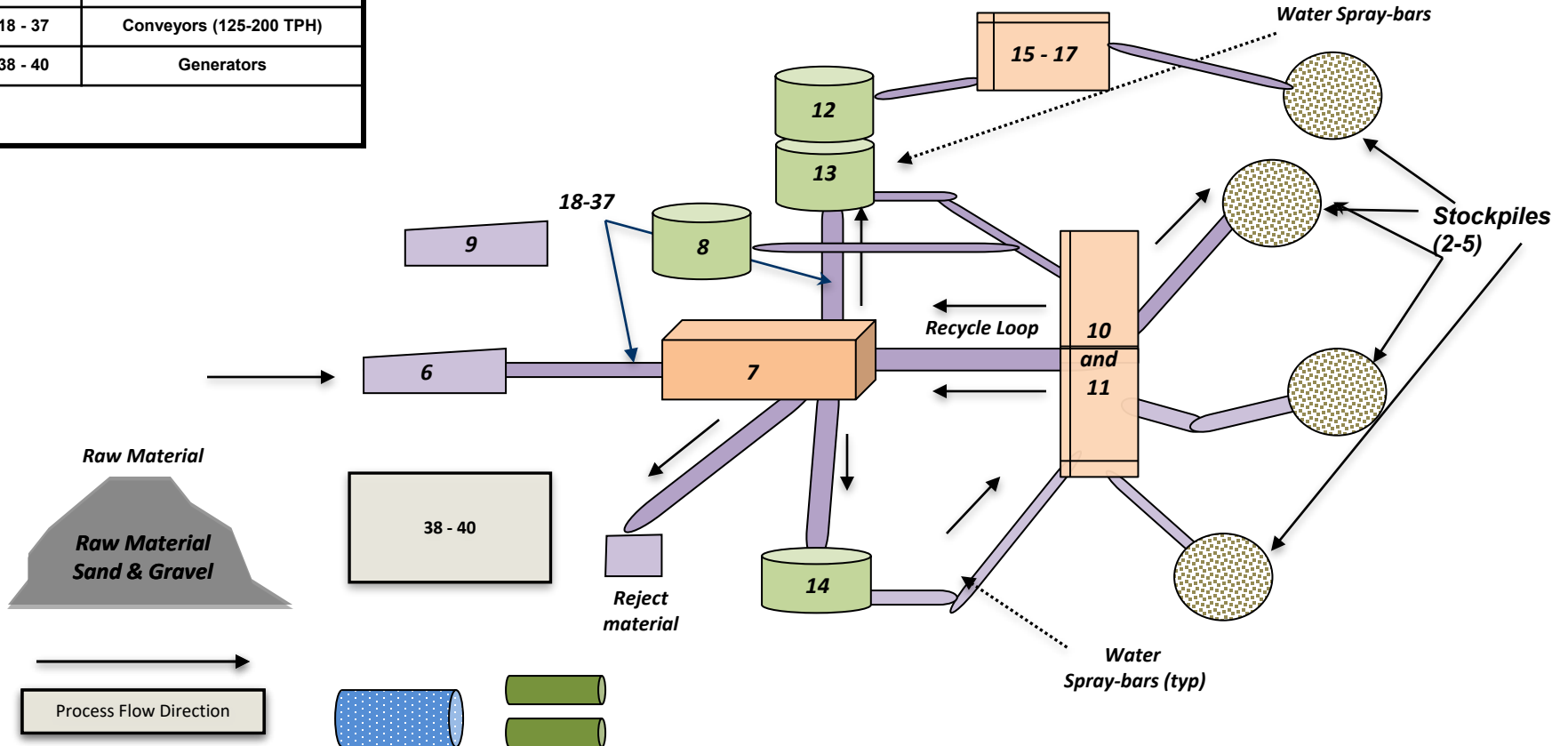
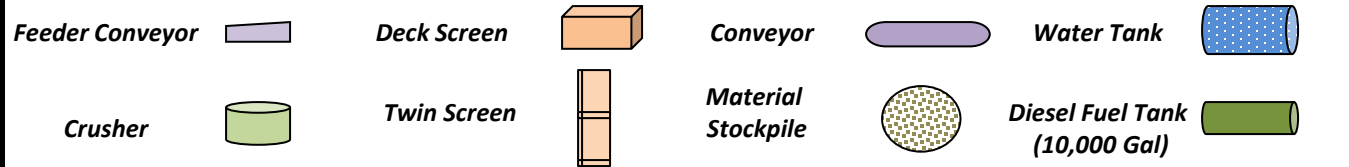
Process Flow Sheet

A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.

A process flow diagram is attached.

| | |
|---------|---------------------------|
| 6 | Feeder Conveyor (400 TPH) |
| 7 | Deck Screen (200 TPH) |
| 8 | Jaw Crusher (200 TPH) |
| 9 | Feeder (200 TPH) |
| 10 - 11 | Deck Screens (200 TPH) |
| 12 - 14 | Cone Crusher (200 TPH) |
| 15 - 17 | Deck Screens (200 TPH) |
| 18 - 37 | Conveyors (125-200 TPH) |
| 38 - 40 | Generators |

EQUIPMENT SCHEMATIC KEY



Fisher Sand & Gravel-
NM, Inc.
P.O. Box 2340
30A Frontage Road East
Placitas, NM 87043

Crusher Plant Process Flow Sheet
NSR Permit Application
Torrance County, New Mexico

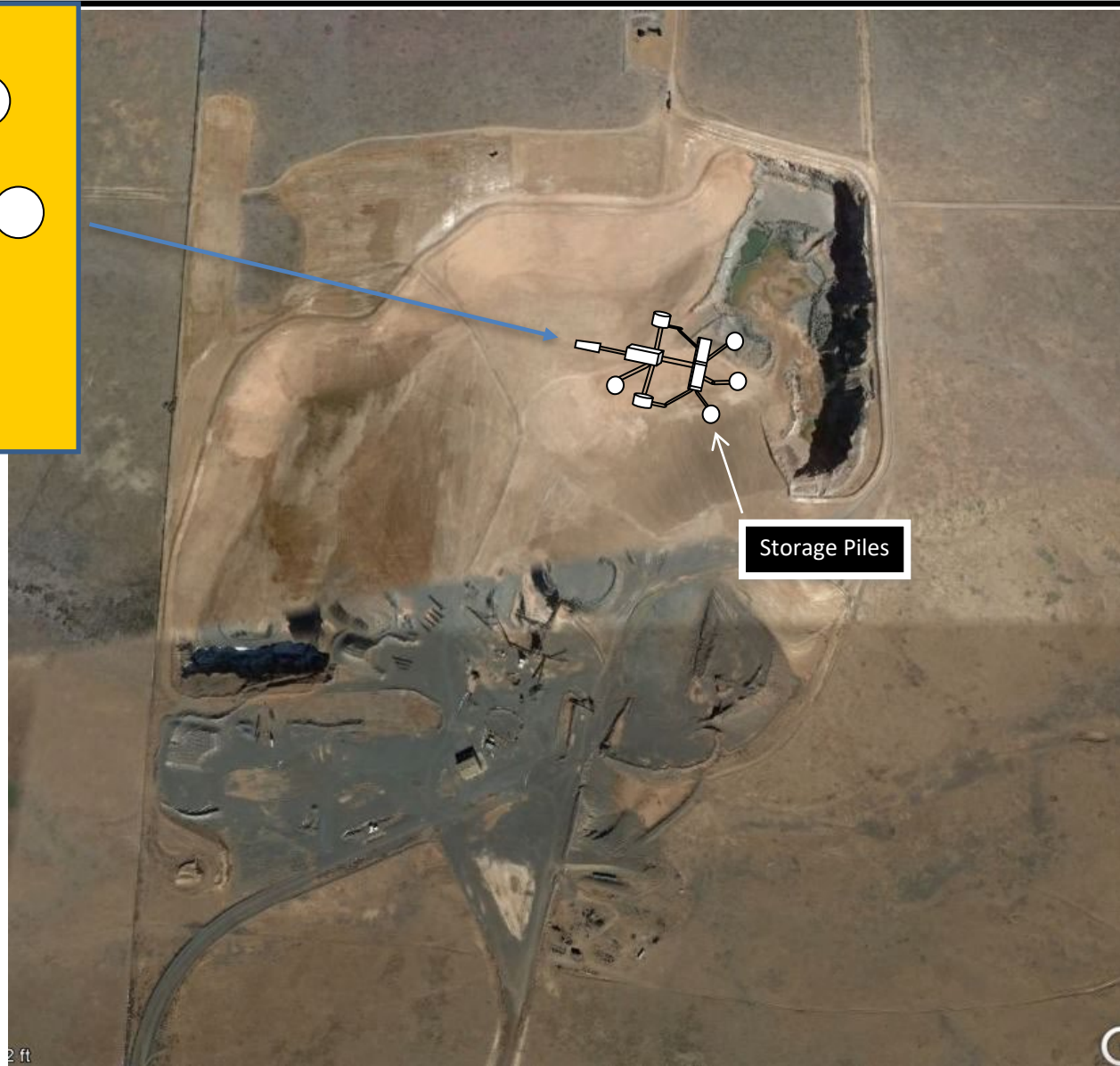
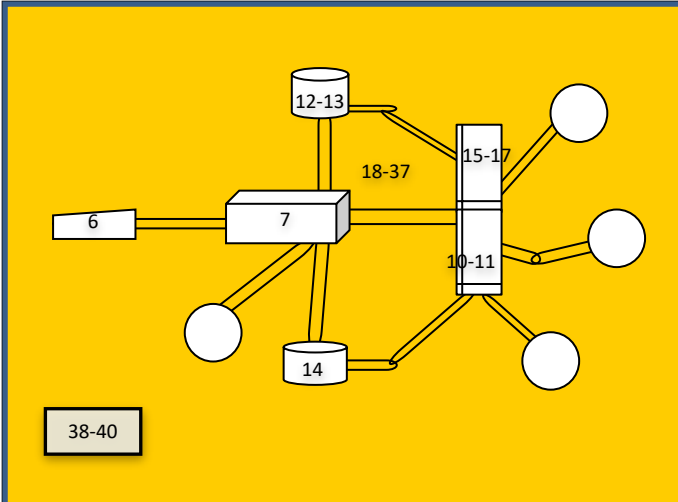
Fisher Sand & Gravel NM, Inc.
Date: June 2022

Section 5

Plot Plan Drawn To Scale

A **plot plan drawn to scale** showing emissions points, roads, structures, tanks, and fences of property owned, leased, or under direct control of the applicant. This plot plan must clearly designate the restricted area as defined in UA1, Section 1-D.12. The unit numbering system should be consistent throughout this application.

A plot plan is attached.



Fisher Sand & Gravel-
NM, Inc.
P.O. Box 2340
30A Frontage Road East
Placitas, NM 87043

*Plot Plan
Crusher Plant
Torrance County, New Mexico*

Fisher Sand & Gravel NM, Inc.

Date: June 2022

Section 6

All Calculations

Show all calculations used to determine both the hourly and annual controlled and uncontrolled emission rates. All calculations shall be performed keeping a minimum of three significant figures. Document the source of each emission factor used (if an emission rate is carried forward and not revised, then a statement to that effect is required). If identical units are being permitted and will be subject to the same operating conditions, submit calculations for only one unit and a note specifying what other units to which the calculations apply. All formulas and calculations used to calculate emissions must be submitted. The "Calculations" tab in the UA2 has been provided to allow calculations to be linked to the emissions tables. Add additional "Calc" tabs as needed. If the UA2 or other spread sheets are used, all calculation spread sheet(s) shall be submitted electronically in Microsoft Excel compatible format so that formulas and input values can be checked. Format all spread sheets and calculations such that the reviewer can follow the logic and verify the input values. Define all variables. If calculation spread sheets are not used, provide the original formulas with defined variables. Additionally, provide subsequent formulas showing the input values for each variable in the formula. All calculations, including those calculations are imbedded in the Calc tab of the UA2 portion of the application, the printed Calc tab(s), should be submitted under this section.

Tank Flashing Calculations: The information provided to the AQB shall include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., NOI, permit, or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis. If Hysis is used, all relevant input parameters shall be reported, including separator pressure, gas throughput, and all other relevant parameters necessary for flashing calculation.

SSM Calculations: It is the applicant's responsibility to provide an estimate of SSM emissions or to provide justification for not doing so. In this Section, provide emissions calculations for Startup, Shutdown, and Routine Maintenance (SSM) emissions listed in the Section 2 SSM and/or Section 22 GHG Tables and the rational for why the others are reported as zero (or left blank in the SSM/GHG Tables). Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on calculating SSM emissions. If SSM emissions are greater than those reported in the Section 2, Requested Allowables Table, modeling may be required to ensure compliance with the standards whether the application is NSR or Title V. Refer to the Modeling Section of this application for more guidance on modeling requirements.

Glycol Dehydrator Calculations: The information provided to the AQB shall include the manufacturer's maximum design recirculation rate for the glycol pump. If GRI-Glycalc is used, the full input summary report shall be included as well as a copy of the gas analysis that was used.

Road Calculations: Calculate fugitive particulate emissions and enter haul road fugitives in Tables 2-A, 2-D and 2-E for:

1. If you transport raw material, process material and/or product into or out of or within the facility and have PER emissions greater than 0.5 tpy.
2. If you transport raw material, process material and/or product into or out of the facility more frequently than one round trip per day.

Significant Figures:

A. All emissions standards are deemed to have at least two significant figures, but not more than three significant figures.

B. At least 5 significant figures shall be retained in all intermediate calculations.

C. In calculating emissions to determine compliance with an emission standard, the following rounding off procedures shall be used:

- (1) If the first digit to be discarded is less than the number 5, the last digit retained shall not be changed;
- (2) If the first digit discarded is greater than the number 5, or if it is the number 5 followed by at least one digit other than the number zero, the last figure retained shall be increased by one unit; **and**
- (3) If the first digit discarded is exactly the number 5, followed only by zeros, the last digit retained shall be rounded upward if it is an odd number, but no adjustment shall be made if it is an even number.
- (4) The final result of the calculation shall be expressed in the units of the standard.

Control Devices: In accordance with 20.2.72.203.A(3) and (8) NMAC, 20.2.70.300.D(5)(b) and (e) NMAC, and 20.2.73.200.B(7) NMAC, the permittee shall report all control devices and list each pollutant controlled by the control device

regardless if the applicant takes credit for the reduction in emissions. The applicant can indicate in this section of the application if they chose to not take credit for the reduction in emission rates. For notices of intent submitted under 20.2.73 NMAC, only uncontrolled emission rates can be considered to determine applicability unless the state or federal Acts require the control. This information is necessary to determine if federally enforceable conditions are necessary for the control device, and/or if the control device produces its own regulated pollutants or increases emission rates of other pollutants.

Fisher Sand & Gravel NM Inc. (Fisher) is proposing the possibility to move the plant within the plant site and off-site, as long as the determined minimum setback from the fenceline is kept and per the relocation modeling proposed in this application. Fisher would like to be able to use the proposed plant included in this application at the proposed location or at any relocation site. Emission calculations are included in this section and provided on Form UA2 (excel spreadsheet).

For the Crushing Operation:

To estimate material handling particulate (PM₁₀/PM_{2.5}) emission rates for crushing, screening, and conveyor transfer operations, emission factors were obtained from EPA's Compilations of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42), Section 11.19.2 "Crushed Stone Processing", Table 11.19.2-2.

Other AP-42 Sections use include:

EPA's Compilations of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42), Section 13.2.2 "Unpaved Roads", November 2006.

EPA's Compilations of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources (AP-42), Section 13.2.4 "Aggregate Handling and Storage Piles", November 2006.

The plant will be powered by a diesel-fired generator engine. Generator emissions were estimated using EPA emission standards for Tier 1-Tier 4 engines, AP-42 Section 3.3, Table 3.3-1 (10/96) emission factors, and any stack test results, for the worst-case potential emissions. Greenhouse gas emissions (GHG) were estimated based on 40 CFR 98, Subpart C – General Stationary Fuel Combustion – Tier 1 Calculations Methodology using Equations C-1 and C-8.

| Process Equipment Information | | | | | | | | | | | |
|-------------------------------|--|--------------|-------------------|--------------|--|---|-----------|--|-------------------------|--------------------------------------|-------------------|
| Unit Number | Component Description (or unit's function) ¹ | Manufacturer | Manufacture Date. | Model Number | Equipment Size, Capacity or Maximum Process Rate | Emission Factors for Regulated Air Pollutants | | Emission Factors (lb/ton) UNCONTROLLED | | Emission Factors (lb/ton) CONTROLLED | |
| | | | | | | | | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| 1 | Loaded Truck Trips per hour | N/A | N/A | 5 | Trucks/hr | 12 | hours/day | = 60 | Truck per Day (maximum) | | |
| 2 | Storage Pile 1 | N/A | N/A | N/A | 200 TPH | AP-42, Table 13.2.4 | | 0.0022 | 0.0003 | 0.000223 | 0.000034 |
| 3 | Storage Pile 2 | N/A | N/A | N/A | 125 TPH | AP-42, Table 13.2.4 | | 0.0022 | 0.0003 | 0.000223 | 0.000034 |
| 4 | Storage Pile 3 | N/A | N/A | N/A | 125 TPH | AP-42, Table 13.2.4 | | 0.0022 | 0.0003 | 0.000223 | 0.000034 |
| 5 | Storage Pile 4 | N/A | N/A | N/A | 125 TPH | AP-42, Table 13.2.4 | | 0.0022 | 0.0003 | 0.000223 | 0.000034 |
| 6 | Oversized Feeder | GSS | 2006 | 4250 | 400 TPH | AP-42, Table 13.2.4 | | 0.0022 | 0.0003 | 0.000223 | 0.000034 |
| 7 | Deck Screen | JCI | 1990 | 3620 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0087 | 0.0087 | 0.00074 | 0.00005 |
| 8 | Jaw Crusher | Pioneer | 1996 | 2854 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0024 | 0.0024 | 0.00054 | 0.00010 |
| 9 | Feeder | GSS | 2006 | DT 4853 | 200 TPH | AP-42, Table 13.2.4 | | 0.0022 | 0.0003 | 0.0002 | 0.00003 |
| 10 | Jaw Screen | JCI | 2008 | 3620 | 400 TPH | AP-42, Table 11.19.2-2 | | 0.0087 | 0.0087 | 0.00074 | 0.00005 |
| 11 | Deck Screen | JCI | 2008 | 3620 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0087 | 0.0087 | 0.00074 | 0.00005 |
| 12 | Cone Crusher | JCI | 1999 | 1400RA | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0024 | 0.0024 | 0.00054 | 0.00010 |
| 13 | Cone Crusher | Texas | 2002 | 500 DVG | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0024 | 0.0024 | 0.00054 | 0.00010 |
| 14 | Cone Crusher | Inertia | 1999 | HSI 506 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0024 | 0.0024 | 0.00054 | 0.00010 |
| 15 | Deck Screen | JCI | 1990 | 3720 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0087 | 0.0087 | 0.00074 | 0.00005 |
| 16 | Deck Screen | JCI Tandem | 2008 | 3620 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0087 | 0.0087 | 0.00074 | 0.00005 |
| 17 | Deck Screen | JCI Tandem | 2008 | 3620 | 200 TPH | AP-42, Table 11.19.2-2 | | 0.0087 | 0.0087 | 0.00074 | 0.00005 |
| 18-37 | Conveyors (20 total) | Fisher S&G | Various | Various | 125-200 TPH | AP-42, Table 11.19.2-2 | | 0.0220 | 0.0220 | 0.00092 | 0.00026 |
| 38 | Generator | Cummins | 2017 | QSK50-G4 | 1100 kW | AP-42 and EPA Emission Standards | | Emissions listed below. | | | |
| 39 | Generator | Caterpillar | 1999 | 3406 | 298 kW | AP-42 and EPA Emission Standards | | Emissions listed below. | | | |
| 40 | Generator | Caterpillar | 2006 | C15 | 535 kW | AP-42 and EPA Emission Standards | | Emissions listed below. | | | |
| | | | | | | | | | | | |

| Emissions (lb/hr) | | | | | | | UNCONTROLLED (lb/hr) | | CONTROLLED (lb/hr) | |
|---|--|-------------|---------|---------|------------------------------|------------------------|----------------------|-------------------|--------------------|-------------------|
| Unit No | Equipment | Manufacture | Year | Model | Estimated Process Rate (TPH) | Emission Factor Source | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| 1 | Truck Traffic Haul Roads Using Dust Control Percent of | | | | 80% | AP-42 Chapter 13.2 | 6.2 | 0.6 | 1.24 | 0.12 |
| 2 | Storage Pile 1 | N/A | N/A | N/A | 200 | AP-42 | 0.45 | 0.07 | 0.04 | 0.01 |
| 3 | Storage Pile 2 | N/A | N/A | N/A | 125 | AP-42 | 0.28 | 0.04 | 0.03 | 0.004 |
| 4 | Storage Pile 3 | N/A | N/A | N/A | 125 | AP-42 | 0.28 | 0.04 | 0.03 | 0.004 |
| 5 | Storage Pile 4 | N/A | N/A | N/A | 125 | AP-42 | 0.28 | 0.04 | 0.03 | 0.004 |
| 6 | Oversized Feeder | GSS | 2006 | 4250 | 400 | AP-42 | 0.89 | 0.14 | 0.09 | 0.01 |
| 7 | Deck Screen | JCI | 1990 | 3620 | 200 | AP-42 | 1.74 | 1.74 | 0.15 | 0.01 |
| 8 | Jaw Crusher | Pioneer | 1996 | 2854 | 200 | AP-42 | 0.48 | 0.48 | 0.11 | 0.02 |
| 9 | Feeder | GSS | 2006 | DT 4853 | 200 | AP-42 | 0.45 | 0.07 | 0.04 | 0.01 |
| 10 | Jaw Screen | JCI | 2008 | 3620 | 400 | AP-42 | 3.48 | 3.48 | 0.30 | 0.02 |
| 11 | Deck Screen | JCI | 2008 | 3620 | 200 | AP-42 | 1.74 | 1.74 | 0.15 | 0.01 |
| 12 | Cone Crusher | JCI | 1999 | 1400RA | 200 | AP-42 | 0.48 | 0.48 | 0.11 | 0.02 |
| 13 | Cone Crusher | Texas | 2002 | 500 DVG | 200 | AP-42 | 0.48 | 0.48 | 0.11 | 0.02 |
| 14 | Cone Crusher | Inertia | 1999 | HSI 506 | 200 | AP-42 | 0.48 | 0.48 | 0.11 | 0.02 |
| 15 | Deck Screen | JCI | 1990 | 3720 | 200 | AP-42 | 1.74 | 1.74 | 0.15 | 0.01 |
| 16 | Deck Screen | JCI Tandem | 2008 | 3620 | 200 | AP-42 | 1.74 | 1.74 | 0.15 | 0.01 |
| 17 | Deck Screen | JCI Tandem | 2008 | 3620 | 200 | AP-42 | 1.74 | 1.74 | 0.15 | 0.01 |
| 18-37 | Conveyors (20 total) | Fisher S&G | Various | Various | 200 | AP-42 | 4.40 | 4.40 | 0.18 | 0.05 |
| Note: Virgin aggregate/RAP/Asphalt cement ratios used in estimating material handling particulate emission rates is equal to 58.0/35.0/6.0. This ratio is used to represent the worst-case scenario for particulate emissions calculation by processing a high ratio of RAP over cold feed aggregate. | | | | | | TOTAL EMISSIONS | 27.31 | 19.52 | 3.15 | 0.37 |

| Emissions (tpy) | | | | | | | UNCONTROLLED (tpy) | | CONTROLLED (tpy) | |
|--|--|-------------|---------|---------|------------------------|------------------------|--------------------|-------------------|------------------|-------------------|
| Unit No | Equipment | Manufacture | Year | Model | Estimated Process Rate | Emission Factor Source | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| 1 | Truck Traffic Haul Roads Using Dust Control Percent of | | | | 80% | AP-42 | 21.9 | 2.2 | 4.38 | 0.44 |
| 2 | Storage Pile 1 | N/A | N/A | N/A | 200 | AP-42 | 1.96 | 0.30 | 0.20 | 0.03 |
| 3 | Storage Pile 2 | N/A | N/A | N/A | 125 | AP-42 | 1.22 | 0.19 | 0.12 | 0.02 |
| 4 | Storage Pile 3 | N/A | N/A | N/A | 125 | AP-42 | 1.22 | 0.19 | 0.12 | 0.02 |
| 5 | Storage Pile 4 | N/A | N/A | N/A | 125 | AP-42 | 1.22 | 0.19 | 0.12 | 0.02 |
| 6 | Oversized Feeder | GSS | 2006 | 4250 | 400 | AP-42 | 3.91 | 0.59 | 0.39 | 0.06 |
| 7 | Deck Screen | JCI | 1990 | 3620 | 200 | AP-42 | 7.62 | 7.62 | 0.65 | 0.04 |
| 8 | Jaw Crusher | Pioneer | 1996 | 2854 | 200 | AP-42 | 2.10 | 2.10 | 0.47 | 0.09 |
| 9 | Feeder | GSS | 2006 | DT 4853 | 200 | AP-42 | 1.96 | 0.30 | 0.20 | 0.03 |
| 10 | Jaw Screen | JCI | 2008 | 3620 | 400 | AP-42 | 15.24 | 15.24 | 1.30 | 0.09 |
| 11 | Deck Screen | JCI | 2008 | 3620 | 200 | AP-42 | 7.62 | 7.62 | 0.65 | 0.04 |
| 12 | Cone Crusher | JCI | 1999 | 1400RA | 200 | AP-42 | 2.10 | 2.10 | 0.47 | 0.09 |
| 13 | Cone Crusher | Texas | 2002 | 500 DVG | 200 | AP-42 | 2.10 | 2.10 | 0.47 | 0.09 |
| 14 | Cone Crusher | Inertia | 1999 | HSI 506 | 200 | AP-42 | 2.10 | 2.10 | 0.47 | 0.09 |
| 15 | Deck Screen | JCI | 1990 | 3720 | 200 | AP-42 | 7.62 | 7.62 | 0.65 | 0.04 |
| 16 | Deck Screen | JCI Tandem | 2008 | 3620 | 200 | AP-42 | 7.62 | 7.62 | 0.65 | 0.04 |
| 17 | Deck Screen | JCI Tandem | 2008 | 3620 | 200 | AP-42 | 7.62 | 7.62 | 0.65 | 0.04 |
| 18-37 | Conveyors (20 total) | Fisher S&G | Various | Various | 200 | AP-42 | 19.27 | 19.27 | 0.81 | 0.23 |
| NOTE: Annual emissions based on maximum of 24 hrs/day, 7 day/wk, 52 wk/yr (8,760 hours/year) | | | | | | TOTAL EMISSIONS | 114.4 | 85.0 | 12.76 | 1.50 |

Generator Engine Emissions

| Unit No. | Equipment | NO _x | CO | VOC | SO ₂ | PM ₁₀ /PM _{2.5} | Total HAP | Max. Single HAP (formaldehyde) | CO ₂ e (uncontrolled) | Units |
|-----------------|------------------|-----------------|-------|-------|-----------------|-------------------------------------|-----------|-----------------------------------|-------------------------------------|-------|
| 38 | Cummins QSK50-G4 | 2.63 | 1.05 | 0.46 | 0.60 | 0.10 | 0.01 | 0.00 | -- | lb/hr |
| | | 11.52 | 4.60 | 2.02 | 2.61 | 0.42 | 0.02 | 0.00 | 2,951.0 | tpy |
| 39 | Caterpillar 3406 | 6.04 | 7.49 | 0.85 | 0.82 | 0.35 | 0.00 | 0.00 | -- | lb/hr |
| | | 26.47 | 32.80 | 3.74 | 3.59 | 1.55 | 0.02 | 0.01 | 1,061.5 | tpy |
| 40 | Caterpillar C15 | 3.30 | 4.13 | 1.42 | 0.29 | 0.24 | 0.00 | 0.00 | -- | lb/hr |
| | | 14.47 | 18.08 | 6.20 | 1.27 | 1.03 | 0.01 | 0.00 | 1,061.5 | tpy |
| TOTAL EMISSIONS | | 11.98 | 12.67 | 2.73 | 1.71 | 0.69 | 0.01 | 0.00 | -- | lb/hr |
| | | 52.46 | 55.48 | 11.96 | 7.48 | 3.01 | 0.05 | 0.01 | 5,073.97 | tpy |

Generator Emission Calculations

Unit No. 38
 Emission Point No. 38
 Source Description: Cummins Diesel Generator
 Manufacturer: Cummins
 Model: QSK50-G4
 Type: diesel engine generator
 Manufacture Date: 2017
 Rated Horsepower: 1475 hp (Manufacturer data)
 Rated Power: 1100 kW (Manufacturer data)
 Fuel Consumption: 28 gal/hr Stack Test Report

Emission Calculations

Uncontrolled Emission Rates

| NO _x | CO | VOC | SO ₂ ¹ | PM ₁₀ /PM _{2.5} ² | Units | Comments |
|-----------------|------|------|------------------------------|--|----------|--|
| | | 0.19 | | 0.04 | g/kW-hr | US EPA Emission Standards for Tier 4 Engines |
| 2.63 | 1.05 | | | | lb/hr | Engine Test Results |
| | | | 0.00040 | | lb/hp-hr | AP-42 Chapter 3.4, Table 3.4-1 |
| 2.63 | 1.05 | 0.46 | 0.60 | 0.10 | lb/hr | Maximum of Test Results or Calculated |
| 11.52 | 4.60 | 2.02 | 2.61 | 0.42 | tpy | Annual emission rate (8,760 hrs/yr) |

Controlled Emission Limits Based on Limited Operating Hours

| NO _x | CO | VOC | SO ₂ | PM ₁₀ /PM _{2.5} | Units | Comments |
|-----------------|------|------|-----------------|-------------------------------------|-------|---|
| 2.63 | 1.05 | 0.46 | 0.60 | 0.10 | lb/hr | |
| 11.52 | 4.60 | 2.02 | 2.61 | 0.42 | tpy | Annual emission rate based on 8760 hrs/yr |

NOTES:

¹ SO₂ emission factor is for large stationary diesel fuel engines and assumes that the sulfur content of the fuel is 0.05%, as required by EPA for nonroad diesel engines.

² All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

(g NO_x/kW-hr) x (0.00220462 lb/g) x (1100 kW) = 2.63 lb/hr

Fuel Consumption

| | | |
|----------------------|--------|----------|
| Max Fuel Consumption | 27.8 | gal/hr |
| Fuel Heat Value | 18,390 | Btu/lb |
| Fuel Density | 7.0 | lb/gal |
| Heat Input | 3.58 | MMBtu/hr |

| | | |
|---|---------|--------|
| GHG uncontrolled fuel Consumption (1500 hrs/yr) | 243,528 | gal/yr |
|---|---------|--------|

| Hazardous Air Pollutants (HAP) | Emission Factor | lb/hr | Uncontrolled 8,760 hours tpy | Controlled to Max of 8760 hrs tpy |
|--------------------------------|--------------------|-------------|------------------------------|-----------------------------------|
| Acetaldehyde | 2.52E-05 lbs/MMBtu | 0.0001 | 0.000 | 0.000 |
| Acrolein | 7.88E-06 lbs/MMBtu | 0.0000 | 0.000 | 0.000 |
| Benzene | 7.76E-04 lbs/MMBtu | 0.003 | 0.012 | 0.012 |
| Formaldehyde | 7.89E-05 lbs/MMBtu | 0.000 | 0.001 | 0.001 |
| Toluene | 2.81E-04 lbs/MMBtu | 0.001 | 0.004 | 0.004 |
| Naphthalene | 1.30E-04 lbs/MMBtu | 0.000 | 0.002 | 0.002 |
| Xylenes | 1.93E-04 lbs/MMBtu | 0.001 | 0.003 | 0.003 |
| HAP TOTALS | | 0.01 | 0.02 | 0.02 |

| |
|---|
| CO₂e Uncontrolled tpy |
| 2,950.97 |

Note:

CO₂e from estimated sum of CO₂, CH₄, and N₂O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.4-3 and 3.4-4 (October, 1996) for HAPs.

Generator Emission Calculations

Unit No. 39
 Emission Point No. 39
 Source Description: Caterpillar Diesel Generator
 Manufacturer: Caterpillar
 Model: 3406
 Type diesel engine generator
 Manufacture Date 1999
 Rated Horsepower 400 hp (Manufacturer data)
 Rated Power 298 kW (Manufacturer data)
 Fuel Consumption 10.0 gal/hr

Emission Calculations

Uncontrolled Emission Rates

| NO _x | CO | VOC | SO ₂ | PM ₁₀ /PM _{2.5} | Units | Comments |
|-----------------|-------|------|-----------------|-------------------------------------|----------|--|
| 9.2 | 11.4 | 1.3 | | 0.54 | g/kW-hr | US EPA Emission Standards for Tier 1 Engines |
| | | | 0.002 | | lb/hp-hr | AP-42 Chapter 3.3, Table 3.3-1 |
| 6.04 | 7.49 | 0.85 | 0.82 | 0.35 | lb/hr | |
| 26.47 | 32.80 | 3.74 | 3.59 | 1.55 | tpy | Annual emission rate (8,760 hrs/yr) |

Controlled Emission Limits Based on Limited Operating Hours

| NO _x | CO | VOC | SO ₂ | PM ₁₀ /PM _{2.5} | Units | Comments |
|-----------------|-------|------|-----------------|-------------------------------------|-------|---|
| 6.04 | 7.49 | 0.85 | 0.82 | 0.35 | lb/hr | |
| 26.47 | 32.80 | 3.74 | 3.59 | 1.55 | tpy | Annual emission rate based on 8760 hrs/yr |

NOTES:

All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

$(9.2 \text{ g NO}_x/\text{kW-hr}) \times (0.00220462 \text{ lb/g}) \times (298 \text{ kW}) = 6.044186192 \text{ lb/hr}$

Fuel Consumption

| | | |
|----------------------|--------|----------|
| Max Fuel Consumption | 10.0 | gal/hr |
| Fuel Heat Value | 18,390 | Btu/lb |
| Fuel Density | 7.0 | lb/gal |
| Heat Input | 1.29 | MMBtu/hr |

| | | |
|---|--------|--------|
| GHG uncontrolled fuel Consumption (1500 hrs/yr) | 87,600 | gal/yr |
|---|--------|--------|

| Hazardous Air Pollutants (HAP) | Emission Factor | lb/hr | Uncontrolled 8,760 hours tpy | Controlled to Max of 8760 hrs tpy |
|--------------------------------|--------------------|-------------|------------------------------|-----------------------------------|
| Acetaldehyde | 7.67E-04 lbs/MMBtu | 0.001 | 0.004 | 0.004 |
| Acrolein | 9.25E-05 lbs/MMBtu | 0.0001 | 0.001 | 0.0005 |
| Benzene | 9.33E-04 lbs/MMBtu | 0.001 | 0.005 | 0.005 |
| 1,3-Butadiene | 3.91E-05 lbs/MMBtu | 0.0001 | 0.000 | 0.0002 |
| Formaldehyde | 1.18E-03 lbs/MMBtu | 0.002 | 0.007 | 0.007 |
| Toluene | 4.09E-04 lbs/MMBtu | 0.001 | 0.002 | 0.002 |
| Naphthalene | 8.48E-05 lbs/MMBtu | 0.0001 | 0.000 | 0.0005 |
| Xylenes | 2.85E-04 lbs/MMBtu | 0.000 | 0.002 | 0.002 |
| HAP TOTALS | | 0.00 | 0.02 | 0.02 |

| |
|---|
| CO₂e Uncontrolled tpy |
| 1,061.50 |

Note:

CO₂e from estimated sum of CO₂, CH₄, and N₂O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.3-2 (October, 1996) for HAPs.

Generator Emission Calculations

Unit No. 40
 Emission Point No. 40
 Source Description: Caterpillar Diesel Generator
 Manufacturer: Caterpillar
 Model: C15
 Type diesel engine generator
 Manufacture Date 2006
 Rated Horsepower 717 hp (Manufacturer data)
 Rated Power 535 kW (Manufacturer data)
 Fuel Consumption 10.0 gal/hr

Emission Calculations

Uncontrolled Emission Rates

| NO _x ¹ | CO | VOC ¹ | SO ₂ ² | PM ₁₀ /PM _{2.5} ³ | Units | Comments |
|------------------------------|-------|------------------|------------------------------|--|----------|--|
| 2.8 | 3.5 | 1.2 | | 0.20 | g/kW-hr | US EPA Emission Standards for Tier 3 Engines |
| | | | 0.00040 | | lb/hp-hr | AP-42 Chapter 3.4, Table 3.4-1 |
| 3.30 | 4.13 | 1.42 | 0.29 | 0.24 | lb/hr | |
| 14.47 | 18.08 | 6.20 | 1.27 | 1.03 | tpy | Annual emission rate (8,760 hrs/yr) |

Controlled Emission Limits Based on Limited Operating Hours

| NO _x | CO | VOC | SO ₂ | PM ₁₀ /PM _{2.5} | Units | Comments |
|-----------------|-------|------|-----------------|-------------------------------------|-------|---|
| 3.30 | 4.13 | 1.42 | 0.29 | 0.24 | lb/hr | |
| 14.47 | 18.08 | 6.20 | 1.27 | 1.03 | tpy | Annual emission rate based on 8760 hrs/yr |

NOTES:

¹ Tier 2 emissions factors combine NO_x and VOC factor into one value. For this application it was assumed that NO_x would represent 70% of the total and VOC would represent 30% of the total.

² SO₂ emission factor is for large stationary diesel fuel engines and assumes that the sulfur content of the fuel is 0.05%, as required by EPA for nonroad diesel engines.

³ All PM emissions estimated to be identical to PM-10 and PM-2.5 emissions.

Sample Calculation:

(2.8 g NO_x/kW-hr) x (0.00220462 lb/g) x (535 kW) = 3.30252076 lb/hr

Fuel Consumption

| | | |
|----------------------|--------|----------|
| Max Fuel Consumption | 10.0 | gal/hr |
| Fuel Heat Value | 18,390 | Btu/lb |
| Fuel Density | 7.0 | lb/gal |
| Heat Input | 1.29 | MMBtu/hr |

| | | |
|---|--------|--------|
| GHG uncontrolled fuel Consumption (1500 hrs/yr) | 87,600 | gal/yr |
|---|--------|--------|

| Hazardous Air Pollutants (HAP) | Emission Factor | lb/hr | Uncontrolled 8,760 hours tpy | Controlled to Max of 8760 hrs tpy |
|--------------------------------|--------------------|-------------|------------------------------|-----------------------------------|
| Acetaldehyde | 2.52E-05 lbs/MMBtu | 0.0000 | 0.000 | 0.0001 |
| Acrolein | 7.88E-06 lbs/MMBtu | 0.0000 | 0.000 | 0.0000 |
| Benzene | 7.76E-04 lbs/MMBtu | 0.0010 | 0.004 | 0.004 |
| Formaldehyde | 7.89E-05 lbs/MMBtu | 0.0001 | 0.000 | 0.000 |
| Toluene | 2.81E-04 lbs/MMBtu | 0.0004 | 0.002 | 0.002 |
| Naphthalene | 1.30E-04 lbs/MMBtu | 0.0002 | 0.001 | 0.001 |
| Xylenes | 1.93E-04 lbs/MMBtu | 0.0002 | 0.001 | 0.001 |
| HAP TOTALS | | 0.00 | 0.01 | 0.01 |

| |
|---|
| CO₂e Uncontrolled tpy |
| 1,061.50 |

Note:

CO₂e from estimated sum of CO₂, CH₄, and N₂O from Generator GHG tab and converted to short tons

NOTES:

Emission Factors from EPA AP-42, Table 3.4-3 and 3.4-4 (October, 1996) for HAPs.

Haul Road Inputs

Site-Wide

| Description | Value | Unit |
|-------------------------|---------|----------------------------|
| Material Throughput | 780,000 | tpy |
| Annual Operating Hours: | 8,760 | hr/yr |
| Daily Operating Hours: | 12 | hr/day, 7 days per week |

Unpaved Haul Road

| Parameter | Value | Unit |
|---------------------------------------|--------|-------|
| Empty Vehicle Weight ¹ | 17.0 | ton |
| Load Size ² | 20.0 | ton |
| Loaded Vehicle Weight ³ | 37.0 | ton |
| Mean Vehicle Weight ⁴ | 27.0 | ton |
| Vehicles Per Day ⁵ | 60 | VPD |
| Vehicles Per Year | 21,900 | VPY |
| Segment Length | 0.70 | miles |
| Trips per Segment | 2 | - |
| Effective Segment Length ⁶ | 1.4 | miles |
| Trips per Hour ⁷ | 10 | - |
| Wet Days ⁸ | 70 | day |
| Surface Silt Content ⁹ | 4.8 | % |
| Control Efficiency | 80 | % |

¹ Empty vehicle weight includes driver and occupants and full fuel load.

² Include cargo, transported materials, etc.

³ Loaded vehicle weight = Empty + Load Size

⁴ Mean Vehicle weight = (Loaded Weight + Empty Weight) / 2

⁵ Vehicles per day

⁶ Effective segment length = trips per segment * segment length

⁷ Trips per hour = Vehicles per day * Segments per trip + Hours of Operation per Day

⁸ Wet days is the NM default allowed by NMED without additional justification

⁹ Surface silt content based on AP-42 Section 13.2.2.3

Unpaved Road Emission Factors

| Route | Calculation Parameters ¹ | | | | | | | | | | | Annual Emission Factors | | | |
|--------|-------------------------------------|------------------------|----------|------------------|------------------|-------------------|------------------|-------------------|------------------|------------------|-------------------|-------------------------------|-------------------|------------------|-------------------|
| | s | W | P | k | | | | | b | | | E _{ext} ⁴ | | | |
| | Silt Content ¹ | Mean Vehicle Weight | Wet Days | PM ₃₀ | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} | PM ₃₀ | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} | PM ₁₀ | PM _{2.5} |
| | % | tons | day | lb/VMT | lb/VMT | lb/VMT | | | | | | lb/VMT | lb/VMT | lb/VMT | lb/VMT |
| Trucks | 4.8 | 27.0 | 70 | 4.9 | 1.5 | 0.15 | 0.90 | 0.90 | 0.45 | 0.45 | 0.45 | 1.8 | 0.18 | 1.4 | 0.14 |

¹ Emission factors calculated per AP-42 Sec. 13.2.2.3 November, 2006, Equation 2.

Unpaved Road Emissions

| Calculation Inputs | | | | | | | Uncontrolled Emissions | | | | Controlled Emissions ⁵ | | | | |
|--------------------|------------------|----------------|-------------------|---------------------------|--------------------------|-----------------------------|------------------------|-------|-------------------|------|-----------------------------------|------|-------------------|------|------|
| Route | Annual Operation | Segment Length | Trips per Segment | Number of Trucks per Year | Effective Segment Length | Average VMT/yr ³ | PM ₁₀ | | PM _{2.5} | | PM ₁₀ | | PM _{2.5} | | |
| | hr | mi | | trucks/yr | mi | mi/yr | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | lb/hr | tpy | |
| Trucks | 8,760 | 0.70 | 2 | 21,900 | 1.40 | 30,660 | 6.19 | 21.90 | 0.62 | 2.19 | 1.24 | 4.38 | 0.12 | 0.44 | |
| | | | | | | Totals | | 6.19 | 21.90 | 0.62 | 2.19 | 1.24 | 4.38 | 0.12 | 0.44 |

¹ Surface silt = % of 75 micron diameter and smaller particles

² E = k x (s/12)^a x (W/3)^b (AP-42 page 13.2.2-4 Equation 1a, November 2006)

E= Size Specific Emission Factor (lb/VMT)

s = surface material silt content (%)

k, a, b = constants from AP-42 Table 13.2.2-2

W = Weighted Mean Vehicle Weight from Haul Road Inputs (tons)

³ VMT/yr = Vehicle Miles Travelled per year = Trips per year * Segment Length

⁴ Wet Day Emission Factor = E * (365 - Wet Days)/365. Wet days value is the NM default allowed by NMED without additional justification.

⁵ Controlled Emissions = Uncontrolled Emissions * (1 - Control Factor/100%)

Control Efficiency = 80% default for base course and watering

Section 6.a

Green House Gas Emissions

(Submitting under 20.2.70, 20.2.72 20.2.74 NMAC)

Title V (20.2.70 NMAC), Minor NSR (20.2.72 NMAC), and PSD (20.2.74 NMAC) applicants must estimate and report greenhouse gas (GHG) emissions to verify the emission rates reported in the public notice, determine applicability to 40 CFR 60 Subparts, and to evaluate Prevention of Significant Deterioration (PSD) applicability. GHG emissions that are subject to air permit regulations consist of the sum of an aggregate group of these six greenhouse gases: carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO₂e emissions from your facility.
2. GHG mass emissions are the sum of the total annual tons of greenhouse gases without adjusting with the global warming potentials (GWPs). GHG CO₂e emissions are the sum of the mass emissions of each individual GHG multiplied by its GWP found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.
3. Emissions from routine or predictable start up, shut down, and maintenance must be included.
4. Report GHG mass and GHG CO₂e emissions in Table 2-P of this application. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).
5. All Title V major sources, PSD major sources, and all power plants, whether major or not, must calculate and report GHG mass and CO₂e emissions for each unit in Table 2-P.
6. For minor source facilities that are not power plants, are not Title V, and are not PSD there are three options for reporting GHGs in Table 2-P: 1) report GHGs for each individual piece of equipment; 2) report all GHGs from a group of unit types, for example report all combustion source GHGs as a single unit and all venting GHGs as a second separate unit; 3) or check the following ☐ By checking this box, the applicant acknowledges the total CO₂e emissions are less than 75,000 tons per year.

Sources for Calculating GHG Emissions:

- Manufacturer's Data
- AP-42 Compilation of Air Pollutant Emission Factors at <http://www.epa.gov/ttn/chief/ap42/index.html>
- EPA's Internet emission factor database WebFIRE at <http://cfpub.epa.gov/webfire/>
- 40 CFR 98 Mandatory Green House Gas Reporting except that tons should be reported in short tons rather than in metric tons for the purpose of PSD applicability.
- API Compendium of Greenhouse Gas Emissions Methodologies for the Oil and Natural Gas Industry. August 2009 or most recent version.
- Sources listed on EPA's NSR Resources for Estimating GHG Emissions at <http://www.epa.gov/nsr/clean-air-act-permitting-greenhouse-gases>:

Global Warming Potentials (GWP):

Applicants must use the Global Warming Potentials codified in Table A-1 of the most recent version of 40 CFR 98 Mandatory Greenhouse Gas Reporting. The GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to that of one unit mass of CO₂ over a specified time period.

"Greenhouse gas" for the purpose of air permit regulations is defined as the aggregate group of the following six gases: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. **(20.2.70.7 NMAC, 20.2.74.7 NMAC)**. You may also find GHGs defined in 40 CFR 86.1818-12(a).

Metric to Short Ton Conversion:

Short tons for GHGs and other regulated pollutants are the standard unit of measure for PSD and title V permitting programs. 40 CFR 98 Mandatory Greenhouse Reporting requires metric tons.

1 metric ton = 1.10231 short tons (per Table A-2 to Subpart A of Part 98 – Units of Measure Conversions)

Greenhouse gas emissions were estimated for the equipment included in this application, as applicable.

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 7/19/2022

Use one spreadsheet for each fuel. Make additional copies as needed.

This spreadsheet is protected and contains locked cells to ensure that you do not inadvertently alter any of the included formulas and/or calculations. To remove this protection and alter this spreadsheet, right-click the "worksheet" tab near the bottom of the screen and select "Unprotect Sheet." When prompted for the password, type "GHG" and click "OK." Please note that making changes to an unprotected sheet could result in incorrect calculations and that you are responsible for the accuracy of the data you report to EPA. For additional help, visit the Microsoft Excel Support website (<http://office.microsoft.com/en-us/excel-help>).

Equation C-1:

$$CO_2 = 1 \times 10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * HHV * EF$$

| | |
|-------------------------|------------------------------------|
| Facility Name: | Unit 38 diesel generator engine |
| Reporter Name: | |
| Unit or Group Name/ ID: | |
| Configuration Type: | |
| Fuel/ Fuel Type: | Diesel |
| Reporting Period: | |
| Comments: | |
| Unit Type: | General Stationary Fuel Combustion |

Fuel Input Data

| | |
|---|----------|
| [Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel) | 243,528. |
| [HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume) | 0.146 |

Constants

| | |
|---|-------|
| [1 x 10 ⁻³] = Conversion Factor from kg to metric tons (constant) | 0.001 |
|---|-------|

Annual CO₂ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

| | |
|---|--------------|
| [EF] = Fuel-Specific Default CO ₂ Emission Factor, from Table C-1 (kg CO ₂ /mmBtu) | 75.04 |
| [CO ₂] = Annual CO ₂ emissions from combustion of the specified fuel (metric tons) | 2668.0538035 |

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 7/19/2022

Annual CH₄ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

| | | |
|---|-----------|--|
| [EF] = Fuel-Specific Default Emission Factor for CH ₄ , from Table C-2 (kg CH ₄ /mmBtu) | 0.003 | Note: If you are reporting CH ₄ emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2). |
| [CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons) | 0.1066653 | |

Enter this value in e-GGRT

Annual N₂O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

| | | |
|---|-----------|---|
| [EF] = Fuel-Specific Default Emission Factor for N ₂ O, from Table C-2 (kg N ₂ O/mmBtu) | 0.0006 | Note: If you are reporting N ₂ O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2). |
| [N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons) | 0.0213331 | |

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH₄ Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

| | | |
|---|-----------|---|
| [GWP _{CH₄}] = Global Warming Potential for CH ₄ | 25 | Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21. |
| [CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons CO ₂ e) | 2.6666316 | |

INFORMATION ONLY: Annual N₂O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

| | | |
|--|-------------|---|
| [GWP _{N₂O}] = Global Warming Potential for N ₂ O | 298 | Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310. |
| [N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons CO ₂ e) | 6.357249734 | |

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 7/19/2022

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Equation C-1:

$$CO_2 = 1 \times 10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * HHV * EF$$

| | |
|-------------------------|------------------------------------|
| Facility Name: | Unit 39 diesel generator engine |
| Reporter Name: | |
| Unit or Group Name/ ID: | |
| Configuration Type: | |
| Fuel/ Fuel Type: | Diesel |
| Reporting Period: | |
| Comments: | |
| Unit Type: | General Stationary Fuel Combustion |

Fuel Input Data

| | |
|---|---------|
| [Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel) | 87,600. |
| [HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume) | 0.146 |

Constants

| | |
|---|-------|
| [1 x 10 ⁻³] = Conversion Factor from kg to metric tons (constant) | 0.001 |
|---|-------|

Annual CO₂ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

| | |
|---|-------------|
| [EF] = Fuel-Specific Default CO ₂ Emission Factor, from Table C-1 (kg CO ₂ /mmBtu) | 75.04 |
| [CO ₂] = Annual CO ₂ emissions from combustion of the specified fuel (metric tons) | 959.7315840 |

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 7/19/2022

Annual CH₄ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

| | |
|---|-----------|
| [EF] = Fuel-Specific Default Emission Factor for CH ₄ , from Table C-2 (kg CH ₄ /mmBtu) | 0.003 |
| [CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons) | 0.0383688 |

Note: If you are reporting CH₄ emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N₂O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

| | |
|---|-----------|
| [EF] = Fuel-Specific Default Emission Factor for N ₂ O, from Table C-2 (kg N ₂ O/mmBtu) | 0.0006 |
| [N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons) | 0.0076738 |

Note: If you are reporting N₂O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH₄ Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

| | |
|---|---------|
| [GWP _{CH₄}] = Global Warming Potential for CH ₄ | 25 |
| [CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons CO ₂ e) | 0.95922 |

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N₂O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

| | |
|--|------------|
| [GWP _{N₂O}] = Global Warming Potential for N ₂ O | 298 |
| [N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons CO ₂ e) | 2.28678048 |

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 7/19/2022

Use one spreadsheet for each fuel. Make additional copies as needed.

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Equation C-1:

$$CO_2 = 1 \times 10^{-3} * Fuel * HHV * EF$$

Equation C-8:

$$CH_4 \text{ or } N_2O = 1 \times 10^{-3} * Fuel * HHV * EF$$

| | |
|-------------------------|------------------------------------|
| Facility Name: | Unit 40 diesel generator engine |
| Reporter Name: | |
| Unit or Group Name/ ID: | |
| Configuration Type: | |
| Fuel/ Fuel Type: | Diesel |
| Reporting Period: | |
| Comments: | |
| Unit Type: | General Stationary Fuel Combustion |

Fuel Input Data

| | |
|---|---------|
| [Fuel] = Mass or volume of fuel combusted per year, from company records as defined in §98.6 (express mass in short tons for solid fuel, volume in standard cubic feet for gaseous fuel, and volume in gallons for liquid fuel) | 87,600. |
| [HHV] = Default High heat value of the fuel, from Table C-1 (mmBtu/mass or mmBtu/volume) | 0.146 |

Constants

| | |
|---|-------|
| [1 x 10 ⁻³] = Conversion Factor from kg to metric tons (constant) | 0.001 |
|---|-------|

Annual CO₂ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-1

| | |
|---|-------------|
| [EF] = Fuel-Specific Default CO ₂ Emission Factor, from Table C-1 (kg CO ₂ /mmBtu) | 75.04 |
| [CO ₂] = Annual CO ₂ emissions from combustion of the specified fuel (metric tons) | 959.7315840 |

Enter this value in e-GGRT

Subpart C - General Stationary Fuel Combustion - Tier 1 Calculation Methodology Using Equations C-1 and C-8

OPTIONAL SPREADSHEET FOR FACILITY RECORDKEEPING PURPOSES

Today's date 7/19/2022

Annual CH₄ Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

| | |
|---|-----------|
| [EF] = Fuel-Specific Default Emission Factor for CH ₄ , from Table C-2 (kg CH ₄ /mmBtu) | 0.003 |
| [CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons) | 0.0383688 |

Note: If you are reporting CH₄ emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

Annual N₂O Mass Emissions For the Specific Fuel Type (metric tons) from Equation C-8

| | |
|---|-----------|
| [EF] = Fuel-Specific Default Emission Factor for N ₂ O, from Table C-2 (kg N ₂ O/mmBtu) | 0.0006 |
| [N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons) | 0.0076738 |

Note: If you are reporting N₂O emissions from a pulp mill lime kiln located at a kraft or soda facility under subpart AA, you are required to use the emission factors in Table AA-2 per 98.273(c)(2).

Enter this value in e-GGRT

INFORMATION ONLY: Annual CH₄ Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

| | |
|---|---------|
| [GWP _{CH₄}] = Global Warming Potential for CH ₄ | 25 |
| [CH ₄] = Annual CH ₄ emissions from combustion of the specified fuel (metric tons CO ₂ e) | 0.95922 |

Note: 25 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 21.

INFORMATION ONLY: Annual N₂O Mass Emissions For the Specific Fuel Type Converted to Carbon Dioxide Equivalent (metric tons CO₂e)

| | |
|--|------------|
| [GWP _{N₂O}] = Global Warming Potential for N ₂ O | 298 |
| [N ₂ O] = Annual N ₂ O emissions from combustion of the specified fuel (metric tons CO ₂ e) | 2.28678048 |

Note: 298 is the GWP effective 1/1/14. The new GWP will affect reports for the 2013 reporting year (submitted to EPA by March 2014) with the exception of reporters who are newly required to report to the GHGRP due to changes to the GWP. Prior to this date, the GWP to use is 310.

Section 7

Information Used To Determine Emissions

Information Used to Determine Emissions shall include the following:

- ☒ If manufacturer data are used, include specifications for emissions units and control equipment, including control efficiencies specifications and sufficient engineering data for verification of control equipment operation, including design drawings, test reports, and design parameters that affect normal operation.
 - ☒ If test data are used, include a copy of the complete test report. If the test data are for an emissions unit other than the one being permitted, the emission units must be identical. Test data may not be used if any difference in operating conditions of the unit being permitted and the unit represented in the test report significantly effect emission rates.
 - ☒ If the most current copy of AP-42 is used, reference the section and date located at the bottom of the page. Include a copy of the page containing the emissions factors, and clearly mark the factors used in the calculations.
 - ☐ If an older version of AP-42 is used, include a complete copy of the section.
 - ☒ If an EPA document or other material is referenced, include a complete copy.
 - ☐ Fuel specifications sheet.
 - ☐ If computer models are used to estimate emissions, include an input summary (if available) and a detailed report, and a disk containing the input file(s) used to run the model. For tank-flashing emissions, include a discussion of the method used to estimate tank-flashing emissions, relative thresholds (i.e., permit or major source (NSPS, PSD or Title V)), accuracy of the model, the input and output from simulation models and software, all calculations, documentation of any assumptions used, descriptions of sampling methods and conditions, copies of any lab sample analysis.
-

- 1) Generator engine specification sheets and stack test data
- 2) AP-42 sections used
- 3) EPA emission standards for Tier 1 - 4 engines

Table 3.3-1. EMISSION FACTORS FOR UNCONTROLLED GASOLINE AND DIESEL INDUSTRIAL ENGINES^a

| Pollutant | Gasoline Fuel (SCC 2-02-003-01, 2-03-003-01) | | Diesel Fuel (SCC 2-02-001-02, 2-03-001-01) | | EMISSION FACTOR RATING |
|------------------------------|---|---|---|---|------------------------------|
| | Emission Factor (lb/hp-hr) (power output) | Emission Factor (lb/MMBtu) (fuel input) | Emission Factor (lb/hp-hr) (power output) | Emission Factor (lb/MMBtu) (fuel input) | |
| NO _x | 0.011 | 1.63 | 0.031 | 4.41 | D |
| CO | 6.96 E-03 ^d | 0.99 ^d | 6.68 E-03 | 0.95 | D |
| SO _x | 5.91 E-04 | 0.084 | 2.05 E-03 | 0.29 | D |
| PM-10 ^b | 7.21 E-04 | 0.10 | 2.20 E-03 | 0.31 | D |
| CO ₂ ^c | 1.08 | 154 | 1.15 | 164 | B |
| Aldehydes | 4.85 E-04 | 0.07 | 4.63 E-04 | 0.07 | D |
| TOC | | | | | |
| Exhaust | 0.015 | 2.10 | 2.47 E-03 | 0.35 | D |
| Evaporative | 6.61 E-04 | 0.09 | 0.00 | 0.00 | E |
| Crankcase | 4.85 E-03 | 0.69 | 4.41 E-05 | 0.01 | E |
| Refueling | 1.08 E-03 | 0.15 | 0.00 | 0.00 | E |

^a References 2,5-6,9-14. When necessary, an average brake-specific fuel consumption (BSFC) of 7,000 Btu/hp-hr was used to convert from lb/MMBtu to lb/hp-hr. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code. TOC = total organic compounds.


^b PM-10 = particulate matter less than or equal to 10 µm aerodynamic diameter. All particulate is assumed to be ≤ 1 µm in size.

^c Assumes 99% conversion of carbon in fuel to CO₂ with 87 weight % carbon in diesel, 86 weight % carbon in gasoline, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and gasoline heating value of 20,300 Btu/lb.

^d Instead of 0.439 lb/hp-hr (power output) and 62.7 lb/mmBtu (fuel input), the correct emissions factors values are 6.96 E-03 lb/hp-hr (power output) and 0.99 lb/mmBtu (fuel input), respectively. This is an editorial correction. March 24, 2009

Table 3.3-2. SPECIATED ORGANIC COMPOUND EMISSION
FACTORS FOR UNCONTROLLED DIESEL ENGINES^a

EMISSION FACTOR RATING: E

| Pollutant | Emission Factor (Fuel Input) (lb/MMBtu) |
|---|---|
| Benzene ^b | 9.33 E-04 |
| Toluene ^b | 4.09 E-04 |
| Xylenes ^b | 2.85 E-04 |
| Propylene  | 2.58 E-03 |
| 1,3-Butadiene ^{b,c} | <3.91 E-05 |
| Formaldehyde ^b | 1.18 E-03 |
| Acetaldehyde ^b | 7.67 E-04 |
| Acrolein ^b | <9.25 E-05 |
| Polycyclic aromatic hydrocarbons (PAH) | |
| Naphthalene ^b | 8.48 E-05 |
| Acenaphthylene | <5.06 E-06 |
| Acenaphthene | <1.42 E-06 |
| Fluorene | 2.92 E-05 |
| Phenanthrene | 2.94 E-05 |
| Anthracene | 1.87 E-06 |
| Fluoranthene | 7.61 E-06 |
| Pyrene | 4.78 E-06 |
| Benzo(a)anthracene | 1.68 E-06 |
| Chrysene | 3.53 E-07 |
| Benzo(b)fluoranthene | <9.91 E-08 |
| Benzo(k)fluoranthene | <1.55 E-07 |
| Benzo(a)pyrene | <1.88 E-07 |
| Indeno(1,2,3-cd)pyrene | <3.75 E-07 |
| Dibenz(a,h)anthracene | <5.83 E-07 |
| Benzo(g,h,i)perylene | <4.89 E-07 |
| TOTAL PAH | 1.68 E-04 |

^a Based on the uncontrolled levels of 2 diesel engines from References 6-7. Source Classification Codes 2-02-001-02, 2-03-001-01. To convert from lb/MMBtu to ng/J, multiply by 430.

^b Hazardous air pollutant listed in the *Clean Air Act*.

^c Based on data from 1 engine.

Table 3.4-1. GASEOUS EMISSION FACTORS FOR LARGE STATIONARY DIESEL AND ALL STATIONARY DUAL-FUEL ENGINES^a

| Pollutant | Diesel Fuel (SCC 2-02-004-01) | | | Dual Fuel ^b (SCC 2-02-004-02) | | |
|------------------------------|---|---|------------------------------|--|---|------------------------------|
| | Emission Factor (lb/hp-hr) (power output) | Emission Factor (lb/MMBtu) (fuel input) | EMISSION FACTOR RATING | Emission Factor (lb/hp-hr) (power output) | Emission Factor (lb/MMBtu) (fuel input) | EMISSION FACTOR RATING |
| NO _x | | | | | | |
| Uncontrolled | 0.024 | 3.2 | B | 0.018 | 2.7 | D |
| Controlled | 0.013 ^c | 1.9 ^c | B | ND | ND | NA |
| CO | 5.5 E-03 | 0.85 | C | 7.5 E-03 | 1.16 | D |
| SO _x ^d | 8.09 E-03S ₁ | 1.01S ₁ | B | 4.06 E-04S ₁ + 9.57 E-03S ₂ | 0.05S ₁ + 0.895S ₂ | B |
| CO ₂ ^e | 1.16 | 165 | B | 0.772 | 110 | B |
| PM | 0.0007 ^c | 0.1 ^c | B | ND | ND | NA |
| TOC (as CH ₄) | 7.05 E-04 | 0.09 | C | 5.29 E-03 | 0.8 | D |
| Methane | f | f | E | 3.97 E-03 | 0.6 | E |
| Nonmethane | f | f | E | 1.32 E-03 | 0.2 ^g | E |

^a Based on uncontrolled levels for each fuel, from References 2,6-7. When necessary, the average heating value of diesel was assumed to be 19,300 Btu/lb with a density of 7.1 lb/gallon. The power output and fuel input values were averaged independently from each other, because of the use of actual brake-specific fuel consumption (BSFC) values for each data point and of the use of data possibly sufficient to calculate only 1 of the 2 emission factors (e. g., enough information to calculate lb/MMBtu, but not lb/hp-hr). Factors are based on averages across all manufacturers and duty cycles. The actual emissions from a particular engine or manufacturer could vary considerably from these levels. To convert from lb/hp-hr to kg/kw-hr, multiply by 0.608. To convert from lb/MMBtu to ng/J, multiply by 430. SCC = Source Classification Code.

^b Dual fuel assumes 95% natural gas and 5% diesel fuel.

^c References 8-26. Controlled NO_x is by ignition timing retard.

^d Assumes that all sulfur in the fuel is converted to SO₂. S₁ = % sulfur in fuel oil; S₂ = % sulfur in natural gas. For example, if sulfur content is 1.5%, then S = 1.5.

^e Assumes 100% conversion of carbon in fuel to CO₂ with 87 weight % carbon in diesel, 70 weight % carbon in natural gas, dual-fuel mixture of 5% diesel with 95% natural gas, average BSFC of 7,000 Btu/hp-hr, diesel heating value of 19,300 Btu/lb, and natural gas heating value of 1050 Btu/scf.

^f Based on data from 1 engine, TOC is by weight 9% methane and 91% nonmethane.

^g Assumes that nonmethane organic compounds are 25% of TOC emissions from dual-fuel engines. Molecular weight of nonmethane gas stream is assumed to be that of methane.

Table 3.4-3. SPECIATED ORGANIC COMPOUND EMISSION FACTORS FOR LARGE UNCONTROLLED STATIONARY DIESEL ENGINES^a

EMISSION FACTOR RATING: E

| Pollutant | Emission Factor (lb/MMBtu) (fuel input) |
|---------------------------|---|
| Benzene ^b | 7.76 E-04 |
| Toluene ^b | 2.81 E-04 |
| Xylenes ^b | 1.93 E-04 |
| Propylene | 2.79 E-03 |
| Formaldehyde ^b | 7.89 E-05 |
| Acetaldehyde ^b | 2.52 E-05 |
| Acrolein ^b | 7.88 E-06 |

^aBased on 1 uncontrolled diesel engine from Reference 7. Source Classification Code 2-02-004-01. Not enough information to calculate the output-specific emission factors of lb/hp-hr. To convert from lb/MMBtu to ng/J, multiply by 430.

^bHazardous air pollutant listed in the *Clean Air Act*.

Table 3.4-4. PAH EMISSION FACTORS FOR LARGE
UNCONTROLLED STATIONARY DIESEL ENGINES^a

EMISSION FACTOR RATING: E

| PAH | Emission Factor (lb/MMBtu) (fuel input) |
|--------------------------|---|
| Naphthalene ^b | 1.30 E-04 |
| Acenaphthylene | 9.23 E-06 |
| Acenaphthene | 4.68 E-06 |
| Fluorene | 1.28 E-05 |
| Phenanthrene | 4.08 E-05 |
| Anthracene | 1.23 E-06 |
| Fluoranthene | 4.03 E-06 |
| Pyrene | 3.71 E-06 |
| Benz(a)anthracene | 6.22 E-07 |
| Chrysene | 1.53 E-06 |
| Benzo(b)fluoranthene | 1.11 E-06 |
| Benzo(k)fluoranthene | <2.18 E-07 |
| Benzo(a)pyrene | <2.57 E-07 |
| Indeno(1,2,3-cd)pyrene | <4.14 E-07 |
| Dibenz(a,h)anthracene | <3.46 E-07 |
| Benzo(g,h,l)perylene | <5.56 E-07 |
| TOTAL PAH | <2.12 E-04 |

^a Based on 1 uncontrolled diesel engine from Reference 7. Source Classification Code 2-02-004-01. Not enough information to calculate the output-specific emission factors of lb/hp-hr. To convert from lb/MMBtu to ng/J, multiply by 430.

^b Hazardous air pollutant listed in the *Clean Air Act*.

Table 11.19.2-1 (Metric Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (kg/Mg)^a

| Source ^b | Total Particulate Matter ^{r,s} | EMISSION FACTOR RATING | Total PM-10 | EMISSION FACTOR RATING | Total PM-2.5 | EMISSION FACTOR RATING |
|---|---|------------------------|-------------------------|------------------------|-------------------------|------------------------|
| Primary Crushing (SCC 3-05-020-01) | ND | | ND ⁿ | | ND ⁿ | |
| Primary Crushing (controlled) (SCC 3-05-020-01) | ND | | ND ⁿ | | ND ⁿ | |
| Secondary Crushing (SCC 3-05-020-02) | ND | | ND ⁿ | | ND ⁿ | |
| Secondary Crushing (controlled) (SCC 3-05-020-02) | ND | | ND ⁿ | | ND ⁿ | |
| Tertiary Crushing (SCC 3-050030-03) | 0.0027 ^d | E | 0.0012 ^o | C | ND ⁿ | |
| Tertiary Crushing (controlled) (SCC 3-05-020-03) | 0.0006 ^d | E | 0.00027 ^p | C | 0.00005 ^q | E |
| Fines Crushing (SCC 3-05-020-05) | 0.0195 ^e | E | 0.0075 ^e | E | ND | |
| Fines Crushing (controlled) (SCC 3-05-020-05) | 0.0015 ^f | E | 0.0006 ^f | E | 0.000035 ^q | E |
| Screening (SCC 3-05-020-02, 03) | 0.0125 ^c | E | 0.0043 ^l | C | ND | |
| Screening (controlled) (SCC 3-05-020-02, 03) | 0.0011 ^d | E | 0.00037 ^m | C | 0.000025 ^q | E |
| Fines Screening (SCC 3-05-020-21) | 0.15 ^g | E | 0.036 ^g | E | ND | |
| Fines Screening (controlled) (SCC 3-05-020-21) | 0.0018 ^g | E | 0.0011 ^g | E | ND | |
| Conveyor Transfer Point (SCC 3-05-020-06) | 0.0015 ^h | E | 0.00055 ^h | D | ND | |
| Conveyor Transfer Point (controlled) (SCC 3-05-020-06) | 0.00007 ⁱ | E | 2.3 x 10 ^{-5j} | D | 6.5 x 10 ^{-6q} | E |
| Wet Drilling - Unfragmented Stone (SCC 3-05-020-10) | ND | | 4.0 x 10 ^{-5j} | E | ND | |
| Truck Unloading - Fragmented Stone (SCC 3-05-020-31) | ND | | 8.0 x 10 ^{-6j} | E | ND | |
| Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32) | ND | | 5.0 x 10 ^{-5k} | E | ND | |

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in kg/Mg of material throughput. SCC = Source Classification Code. ND = No data.

b. Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with appropriate control efficiency that best reflects the effectiveness of the controls employed.

c. References 1, 3, 7, and 8

- d. References 3, 7, and 8
- e. Reference 4
- f. References 4 and 15
- g. Reference 4
- h. References 5 and 6
- i. References 5, 6, and 15
- j. Reference 11
- k. Reference 12
- l. References 1, 3, 7, and 8
- m. References 1, 3, 7, 8, and 15
- n. No data available, but emission factors for PM-10 for tertiary crushers can be used as an upper limit for primary or secondary crushing
- o. References 2, 3, 7, 8
- p. References 2, 3, 7, 8, and 15
- q. Reference 15
- r. PM emission factors are presented based on PM-100 data in the Background Support Document for Section 11.19.2
- s. Emission factors for PM-30 and PM-50 are available in Figures 11.19.2-3 through 11.19.2-6.

Note: Truck Unloading - Conveyor, crushed stone (SCC 3-05-020-32) was corrected to Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32). October 1, 2010.

Table 11.19.2-2 (English Units). EMISSION FACTORS FOR CRUSHED STONE PROCESSING OPERATIONS (lb/Ton)^a

| Source ^b | Total Particulate Matter ^{r,s} | EMISSION FACTOR RATING | Total PM-10 | EMISSION FACTOR RATING | Total PM-2.5 | EMISSION FACTOR RATING |
|---|---|------------------------|-------------------------|------------------------|-------------------------|------------------------|
| Primary Crushing (SCC 3-05-020-01) | ND | | ND ⁿ | | ND ⁿ | |
| Primary Crushing (controlled) (SCC 3-05-020-01) | ND | | ND ⁿ | | ND ⁿ | |
| Secondary Crushing (SCC 3-05-020-02) | ND | | ND ⁿ | | ND ⁿ | |
| Secondary Crushing (controlled) (SCC 3-05-020-02) | ND | | ND ⁿ | | ND ⁿ | |
| Tertiary Crushing (SCC 3-050030-03) | 0.0054 ^d | E | 0.0024 ^o | C | ND ⁿ | |
| Tertiary Crushing (controlled) (SCC 3-05-020-03) | 0.0012 ^d | E | 0.00054 ^p | C | 0.00010 ^q | E |
| Fines Crushing (SCC 3-05-020-05) | 0.0390 ^e | E | 0.0150 ^e | E | ND | |
| Fines Crushing (controlled) (SCC 3-05-020-05) | 0.0030 ^f | E | 0.0012 ^f | E | 0.000070 ^q | E |
| Screening (SCC 3-05-020-02, 03) | 0.025 ^c | E | 0.0087 ^l | C | ND | |
| Screening (controlled) (SCC 3-05-020-02, 03) | 0.0022 ^d | E | 0.00074 ^m | C | 0.000050 ^q | E |
| Fines Screening (SCC 3-05-020-21) | 0.30 ^g | E | 0.072 ^g | E | ND | |
| Fines Screening (controlled) (SCC 3-05-020-21) | 0.0036 ^g | E | 0.0022 ^g | E | ND | |
| Conveyor Transfer Point (SCC 3-05-020-06) | 0.0030 ^h | E | 0.00110 ^h | D | ND | |
| Conveyor Transfer Point (controlled) (SCC 3-05-020-06) | 0.00014 ⁱ | E | 4.6 x 10 ⁻⁵ⁱ | D | 1.3 x 10 ^{-5q} | E |
| Wet Drilling - Unfragmented Stone (SCC 3-05-020-10) | ND | | 8.0 x 10 ^{-5j} | E | ND | |
| Truck Unloading - Fragmented Stone (SCC 3-05-020-31) | ND | | 1.6 x 10 ^{-5j} | E | ND | |
| Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32) | ND | | 0.00010 ^k | E | ND | |

a. Emission factors represent uncontrolled emissions unless noted. Emission factors in lb/Ton of material of throughput. SCC = Source Classification Code. ND = No data.

b. Controlled sources (with wet suppression) are those that are part of the processing plant that employs current wet suppression technology similar to the study group. The moisture content of the study group without wet suppression systems operating (uncontrolled) ranged from 0.21 to 1.3 percent, and the same facilities operating wet suppression systems (controlled) ranged from 0.55 to 2.88 percent. Due to carry over of the small amount of moisture required, it has been shown that each source, with the exception of crushers, does not need to employ direct water sprays. Although the moisture content was the only variable measured, other process features may have as much influence on emissions from a given source. Visual observations from each source under normal operating conditions are probably the best indicator of which emission factor is most appropriate. Plants that employ substandard control measures as indicated by visual observations should use the uncontrolled factor with an appropriate control efficiency that best reflects the effectiveness of the controls employed.

c. References 1, 3, 7, and 8

d. References 3, 7, and 8

- e. Reference 4
- f. References 4 and 15
- g. Reference 4
- h. References 5 and 6
- i. References 5, 6, and 15
- j. Reference 11
- k. Reference 12
- l. References 1, 3, 7, and 8
- m. References 1, 3, 7, 8, and 15
- n. No data available, but emission factors for PM-10 for tertiary crushers can be used as an upper limit for primary or secondary crushing
- o. References 2, 3, 7, 8
- p. References 2, 3, 7, 8, and 15
- q. Reference 15
- r. PM emission factors are presented based on PM-100 data in the Background Support Document for Section 11.19.2
- s. Emission factors for PM-30 and PM-50 are available in Figures 11.19.2-3 through 11.19.2-6.

Note: Truck Unloading - Conveyor, crushed stone (SCC 3-05-020-32) was corrected to Truck Loading - Conveyor, crushed stone (SCC 3-05-020-32). October 1, 2010.

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Emission factor estimates for stone quarry blasting operations are not presented because of the sparsity and unreliability of available tests. While a procedure for estimating blasting emissions is presented in Section 11.9, Western Surface Coal Mining, that procedure should not be applied to stone quarries because of dissimilarities in blasting techniques, material blasted, and size of blast areas. Emission factors for fugitive dust sources, including paved and unpaved roads, materials handling and transfer, and wind erosion of storage piles, can be determined using the predictive emission factor equations presented in AP-42 Section 13.2.

The data used in the preparation of the controlled PM calculations was derived from the individual A-rated tests for PM-2.5 and PM-10 summarized in the Background Support Document. For conveyor transfer points, the controlled PM value was derived from A-rated PM-2.5, PM-10, and PM data summarized in the Background Support Document.

The extrapolation line was drawn through the PM-2.5 value and the mean of the PM-10 values. PM emission factors were calculated for PM-30, PM-50, and PM-100. Each of these particle size limits is used by one or more regulatory agencies as the definition of total particulate matter. The graphical extrapolations used in calculating the emission factors are presented in Figures 11.19.2-3, -4, -5, and -6.

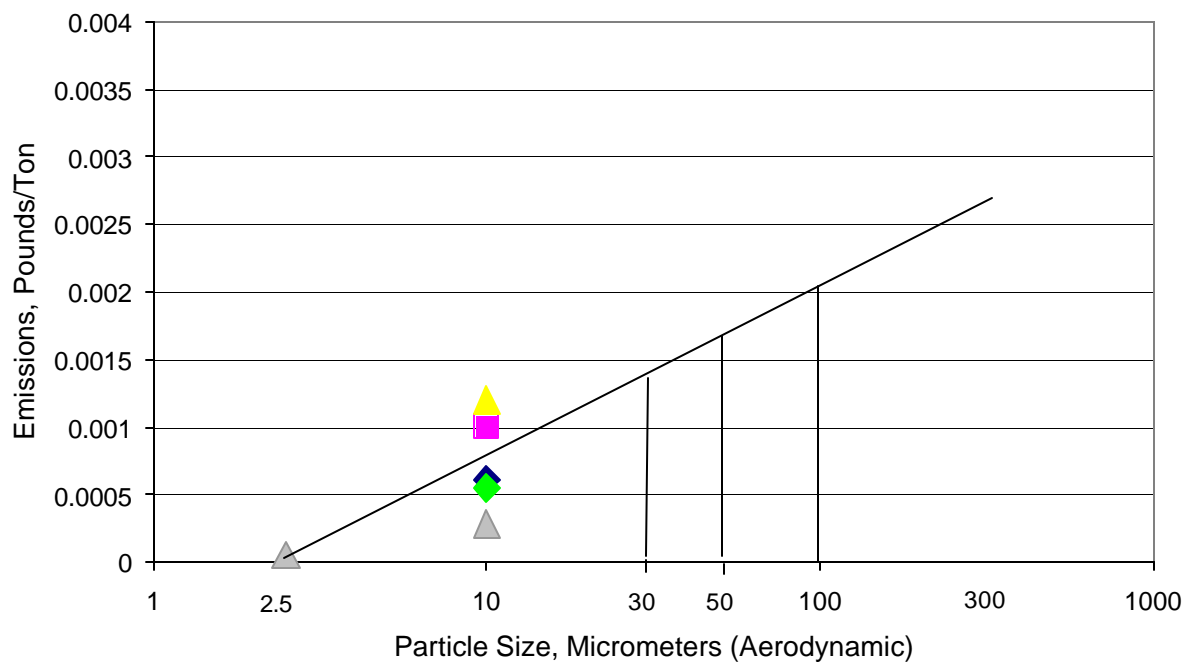


Figure 11-19-3. PM Emission Factor Calculation, Screening (Controlled)

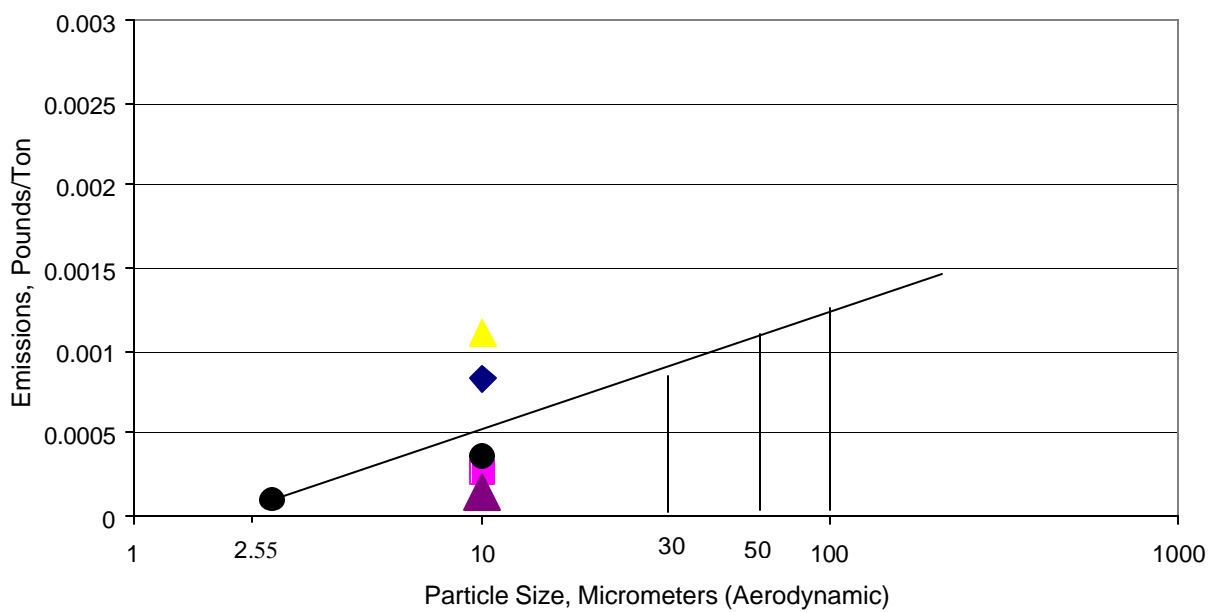


Figure 11.19-4. PM Emission Factor Calculation, Tertiary Crushing (Controlled)

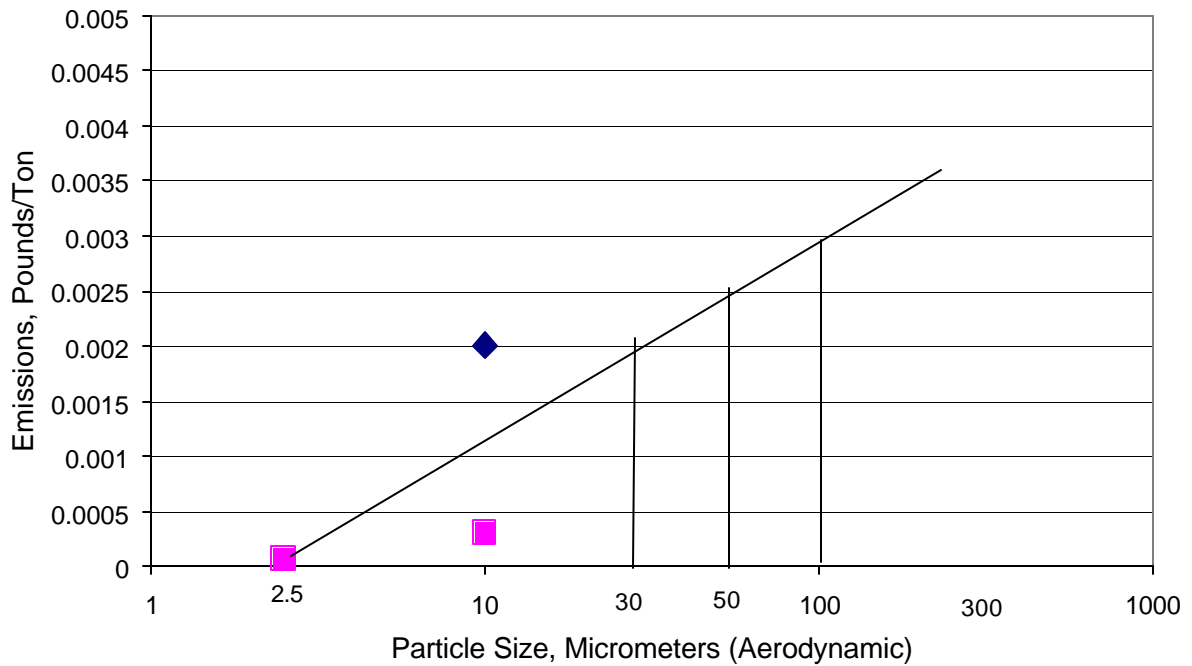


Figure 11-19.5. PM Emission Factor Calculation, Fines Crushing (Controlled)

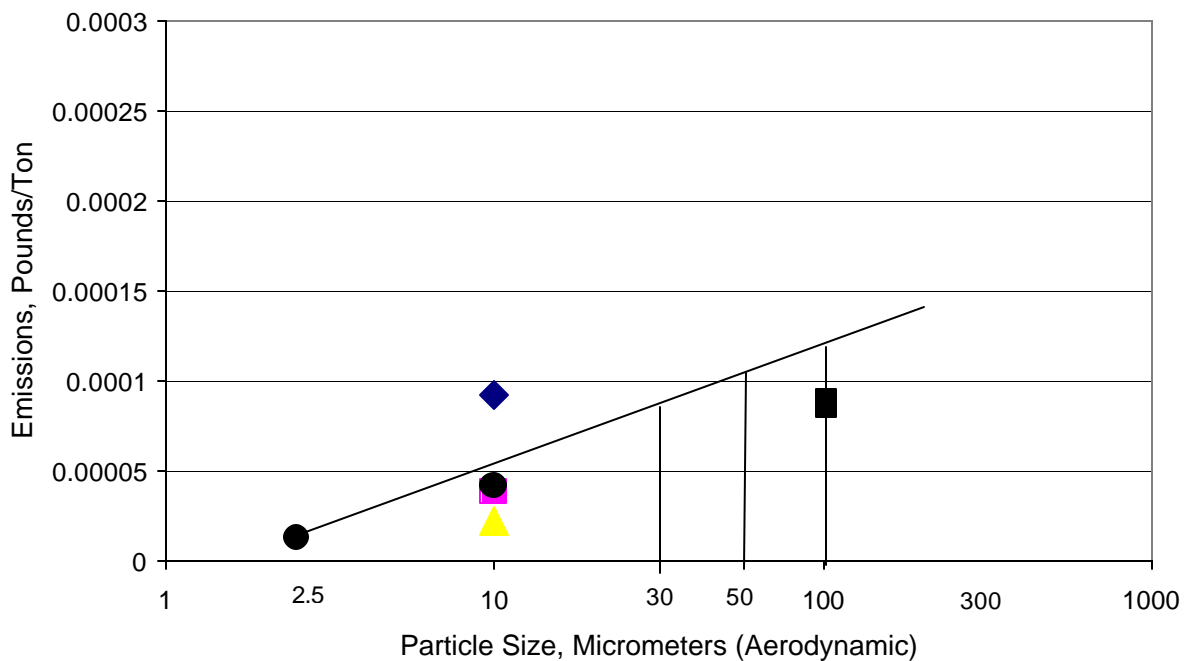


Figure 11.19-6. PM Emission Factor Calculation, Conveyor Transfer Points (Controlled)

The uncontrolled PM emission factors have been calculated from the controlled PM emission factors calculated in accordance with Figures 11.19.2-3 through 11.19.2-6. The PM-10 control efficiencies have been applied to the PM controlled emission factor data to calculate the uncontrolled PM emission rates.

Screening PM-10

Controlled = 0.00073 Lbs./Ton.

Uncontrolled = 0.00865 Lbs./Ton.

Efficiency = 91.6%

Tertiary Crushing PM-10

Controlled = 0.00054

Uncontrolled = 0.00243

Efficiency = 77.7%

Fines Crushing PM-10:

Controlled = 0.0012

Uncontrolled = 0.015

Efficiency = 92.0%

Conveyor Transfer Points PM-10

Controlled = 0.000045

Uncontrolled = 0.0011

Efficiency = 95.9%

The uncontrolled total particulate matter emission factor was calculated from the controlled total particulate matter using Equation 1:

$$\text{Uncontrolled emission factor} = \frac{\text{Controlled total particulate emission factor}}{(100\% - \text{PM-10 Efficiency \%})/100\%}$$

Equation 1

The Total PM emission factors calculated using Figures 11.19.2-3 through 11.19.2-6 were developed because (1) there are more A-rated test data supporting the calculated values and (2) the extrapolated values provide the flexibility for agencies and source operators to select the most appropriate definition for Total PM. All of the Total PM emission factors have been rated as E due to the limited test data and the need to estimate emission factors using extrapolations of the PM-2.5 and PM-10 data.

Pulverized Mineral Processing

Emissions of particulate matter from dry mode pulverized mineral processing operations are controlled by pulse jet and envelope type fabric filter systems. Due to the low-to-moderate gas temperatures generated by the processing equipment, conventional felted filter media are used. Collection efficiencies for fabric filter-controlled dry process equipment exceed 99.5%. Emission factors for pulverized mineral processing operations are presented in Tables 11.19.2-3 and 11.19.2-4.

Table 11.19.2-3 (Metric Units). EMISSION FACTORS FOR PULVERIZED MINERAL PROCESSING OPERATIONS ^a

| Source ^b | Total Particulate Matter | EMISSION FACTOR RATING | Total PM-10 | EMISSION FACTOR RATING | Total PM-2.5 | EMISSION FACTOR RATING |
|---|--------------------------------|------------------------------|----------------|------------------------------|-----------------|------------------------------|
| Grinding (Dry) with Fabric Filter Control (SCC 3-05-038-11) | 0.0202 | D | 0.0169 | B | 0.0060 | B |
| Classifiers (Dry) with Fabric Filter Control (SCC 3-05-038-12) | 0.0112 | E | 0.0052 | E | 0.0020 | E |
| Flash Drying with Fabric Filter Control (SCC 3-05-038-35) | 0.0134 | C | 0.0073 | C | 0.0042 | C |
| Product Storage with Fabric Filter Control (SCC 3-05-38-13) | 0.0055 | E | 0.0008 | E | 0.0003 | E |

a. Emission factors represent controlled emissions unless noted. Emission factors are in kg/Mg of material throughput.

b. Data from references 16 through 23

Table 11.19.2-4 (English Units). EMISSION FACTORS FOR PULVERIZED MINERAL PROCESSING OPERATIONS ^a

| Source ^b | Total Particulate Matter | EMISSION FACTOR RATING | Total PM-10 | EMISSION FACTOR RATING | Total PM-2.5 | EMISSION FACTOR RATING |
|---|--------------------------------|------------------------------|----------------|------------------------------|-----------------|------------------------------|
| Grinding (Dry) with Fabric Filter Control (SCC 3-05-038-11) | 0.0404 | D | 0.0339 | B | 0.0121 | B |
| Classifiers (Dry) with Fabric Filter Control (SCC 3-05-038-12) | 0.0225 | E | 0.0104 | E | 0.0041 | E |
| Flash Drying with Fabric Filter Control (SCC 3-05-038-35) | 0.0268 | C | 0.0146 | C | 0.0083 | C |
| Product Storage with Fabric Filter Control (SCC 3-05-038-13) | 0.0099 | E | 0.0016 | E | 0.0006 | E |

a. Emission factors represent controlled emissions unless noted. Emission factors are in lb/Ton of material throughput.

b. Data from references 16 through 23

13.2.2 Unpaved Roads

13.2.2.1 General

When a vehicle travels an unpaved road, the force of the wheels on the road surface causes pulverization of surface material. Particles are lifted and dropped from the rolling wheels, and the road surface is exposed to strong air currents in turbulent shear with the surface. The turbulent wake behind the vehicle continues to act on the road surface after the vehicle has passed.

The particulate emission factors presented in the previous draft version of this section of AP-42, dated October 2001, implicitly included the emissions from vehicles in the form of exhaust, brake wear, and tire wear as well as resuspended road surface material²⁵. EPA included these sources in the emission factor equation for unpaved public roads (equation 1b in this section) since the field testing data used to develop the equation included both the direct emissions from vehicles and emissions from resuspension of road dust.

This version of the unpaved public road emission factor equation only estimates particulate emissions from resuspended road surface material^{23, 26}. The particulate emissions from vehicle exhaust, brake wear, and tire wear are now estimated separately using EPA's MOBILE6.2²⁴. This approach eliminates the possibility of double counting emissions. Double counting results when employing the previous version of the emission factor equation in this section and MOBILE6.2 to estimate particulate emissions from vehicle traffic on unpaved public roads. It also incorporates the decrease in exhaust emissions that has occurred since the unpaved public road emission factor equation was developed. The previous version of the unpaved public road emission factor equation includes estimates of emissions from exhaust, brake wear, and tire wear based on emission rates for vehicles in the 1980 calendar year fleet. The amount of PM released from vehicle exhaust has decreased since 1980 due to lower new vehicle emission standards and changes in fuel characteristics.

13.2.2.2 Emissions Calculation And Correction Parameters¹⁻⁶

The quantity of dust emissions from a given segment of unpaved road varies linearly with the volume of traffic. Field investigations also have shown that emissions depend on source parameters that characterize the condition of a particular road and the associated vehicle traffic. Characterization of these source parameters allow for "correction" of emission estimates to specific road and traffic conditions present on public and industrial roadways.

Dust emissions from unpaved roads have been found to vary directly with the fraction of silt (particles smaller than 75 micrometers [μm] in diameter) in the road surface materials.¹ The silt fraction is determined by measuring the proportion of loose dry surface dust that passes a 200-mesh screen, using the ASTM-C-136 method. A summary of this method is contained in Appendix C of AP-42. Table 13.2.2-1 summarizes measured silt values for industrial unpaved roads. Table 13.2.2-2 summarizes measured silt values for public unpaved roads. It should be noted that the ranges of silt content vary over two orders of magnitude. Therefore, the use of data from this table can potentially introduce considerable error. Use of this data is strongly discouraged when it is feasible to obtain locally gathered data.

Since the silt content of a rural dirt road will vary with geographic location, it should be measured for use in projecting emissions. As a conservative approximation, the silt content of the parent soil in the area can be used. Tests, however, show that road silt content is normally lower than in the surrounding parent soil, because the fines are continually removed by the vehicle traffic, leaving a higher percentage of coarse particles.

Other variables are important in addition to the silt content of the road surface material. For example, at industrial sites, where haul trucks and other heavy equipment are common, emissions are highly correlated with vehicle weight. On the other hand, there is far less variability in the weights of cars and pickup trucks that commonly travel publicly accessible unpaved roads throughout the United States. For those roads, the moisture content of the road surface material may be more dominant in determining differences in emission levels between, for example a hot, desert environment and a cool, moist location.

The PM-10 and TSP emission factors presented below are the outcomes from stepwise linear regressions of field emission test results of vehicles traveling over unpaved surfaces. Due to a limited amount of information available for PM-2.5, the expression for that particle size range has been scaled against the result for PM-10. Consequently, the quality rating for the PM-2.5 factor is lower than that for the PM-10 expression.

Table 13.2.2-1. TYPICAL SILT CONTENT VALUES OF SURFACE MATERIAL
ON INDUSTRIAL UNPAVED ROADS^a

| Industry | Road Use Or Surface Material | Plant Sites | No. Of Samples | Silt Content (%) | |
|---------------------------------|---------------------------------|----------------|-------------------|------------------|------|
| | | | | Range | Mean |
| Copper smelting | Plant road | 1 | 3 | 16 - 19 | 17 |
| Iron and steel production | Plant road | 19 | 135 | 0.2 - 19 | 6.0 |
| Sand and gravel processing | Plant road | 1 | 3 | 4.1 - 6.0 | 4.8 |
| | Material storage area | 1 | 1 | - | 7.1 |
| Stone quarrying and processing | Plant road | 2 | 10 | 2.4 - 16 | 10 |
| | Haul road to/from pit | 4 | 20 | 5.0-15 | 8.3 |
| Taconite mining and processing | Service road | 1 | 8 | 2.4 - 7.1 | 4.3 |
| | Haul road to/from pit | 1 | 12 | 3.9 - 9.7 | 5.8 |
| Western surface coal mining | Haul road to/from pit | 3 | 21 | 2.8 - 18 | 8.4 |
| | Plant road | 2 | 2 | 4.9 - 5.3 | 5.1 |
| | Scraper route | 3 | 10 | 7.2 - 25 | 17 |
| | Haul road (freshly graded) | 2 | 5 | 18 - 29 | 24 |
| Construction sites | Scraper routes | 7 | 20 | 0.56-23 | 8.5 |
| Lumber sawmills | Log yards | 2 | 2 | 4.8-12 | 8.4 |
| Municipal solid waste landfills | Disposal routes | 4 | 20 | 2.2 - 21 | 6.4 |

^aReferences 1,5-15.

The following empirical expressions may be used to estimate the quantity in pounds (lb) of size-specific particulate emissions from an unpaved road, per vehicle mile traveled (VMT):

For vehicles traveling on unpaved surfaces at industrial sites, emissions are estimated from the following equation:

$$E = k (s/12)^a (W/3)^b \quad (1a)$$

and, for vehicles traveling on publicly accessible roads, dominated by light duty vehicles, emissions may be estimated from the following:

$$E = \frac{k (s/12)^a (S/30)^d}{(M/0.5)^c} - C \quad (1b)$$

where k , a , b , c and d are empirical constants (Reference 6) given below and

E = size-specific emission factor (lb/VMT)

s = surface material silt content (%)

W = mean vehicle weight (tons)

M = surface material moisture content (%)

S = mean vehicle speed (mph)

C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear.

The source characteristics s , W and M are referred to as correction parameters for adjusting the emission estimates to local conditions. The metric conversion from lb/VMT to grams (g) per vehicle kilometer traveled (VKT) is as follows:

$$1 \text{ lb/VMT} = 281.9 \text{ g/VKT}$$

The constants for Equations 1a and 1b based on the stated aerodynamic particle sizes are shown in Tables 13.2.2-2 and 13.2.2-4. The PM-2.5 particle size multipliers (k -factors) are taken from Reference 27.

Table 13.2.2-2. CONSTANTS FOR EQUATIONS 1a AND 1b

| Constant | Industrial Roads (Equation 1a) | | | Public Roads (Equation 1b) | | |
|----------------|--------------------------------|-------|--------|----------------------------|-------|--------|
| | PM-2.5 | PM-10 | PM-30* | PM-2.5 | PM-10 | PM-30* |
| k (lb/VMT) | 0.15 | 1.5 | 4.9 | 0.18 | 1.8 | 6.0 |
| a | 0.9 | 0.9 | 0.7 | 1 | 1 | 1 |
| b | 0.45 | 0.45 | 0.45 | - | - | - |
| c | - | - | - | 0.2 | 0.2 | 0.3 |
| d | - | - | - | 0.5 | 0.5 | 0.3 |
| Quality Rating | B | B | B | B | B | B |

*Assumed equivalent to total suspended particulate matter (TSP)

“-“ = not used in the emission factor equation

Table 13.2.2-2 also contains the quality ratings for the various size-specific versions of Equation 1a and 1b. The equation retains the assigned quality rating, if applied within the ranges of source conditions, shown in Table 13.2.2-3, that were tested in developing the equation:

Table 13.2.2-3. RANGE OF SOURCE CONDITIONS USED IN DEVELOPING EQUATION 1a AND 1b

| Emission Factor | Surface Silt Content, % | Mean Vehicle Weight | | Mean Vehicle Speed | | Mean No. of Wheels | Surface Moisture Content, % |
|--------------------------------|-------------------------|---------------------|-------|--------------------|-------|--------------------|-----------------------------|
| | | Mg | ton | km/hr | mph | | |
| Industrial Roads (Equation 1a) | 1.8-25.2 | 1.8-260 | 2-290 | 8-69 | 5-43 | 4-17 ^a | 0.03-13 |
| Public Roads (Equation 1b) | 1.8-35 | 1.4-2.7 | 1.5-3 | 16-88 | 10-55 | 4-4.8 | 0.03-13 |

^a See discussion in text.

As noted earlier, the models presented as Equations 1a and 1b were developed from tests of traffic on unpaved surfaces. Unpaved roads have a hard, generally nonporous surface that usually dries quickly after a rainfall or watering, because of traffic-enhanced natural evaporation. (Factors influencing how fast a road dries are discussed in Section 13.2.2.3, below.) The quality ratings given above pertain to the mid-range of the measured source conditions for the equation. A higher mean vehicle weight and a higher than normal traffic rate may be justified when performing a worst-case analysis of emissions from unpaved roads.

The emission factors for the exhaust, brake wear and tire wear of a 1980's vehicle fleet (C) was obtained from EPA's MOBILE6.2 model ²³. The emission factor also varies with aerodynamic size range

as shown in Table 13.2.2-4

Table 13.2.2-4. EMISSION FACTOR FOR 1980'S VEHICLE FLEET
EXHAUST, BRAKE WEAR AND TIRE WEAR

| Particle Size Range ^a | C, Emission Factor for Exhaust, Brake Wear and Tire Wear ^b lb/VMT |
|----------------------------------|---|
| PM _{2.5} | 0.00036 |
| PM ₁₀ | 0.00047 |
| PM ₃₀ ^c | 0.00047 |

^a Refers to airborne particulate matter (PM-x) with an aerodynamic diameter equal to or less than x micrometers.

^b Units shown are pounds per vehicle mile traveled (lb/VMT).

^c PM-30 is sometimes termed "suspendable particulate" (SP) and is often used as a surrogate for TSP.

It is important to note that the vehicle-related source conditions refer to the average weight, speed, and number of wheels for all vehicles traveling the road. For example, if 98 percent of traffic on the road are 2-ton cars and trucks while the remaining 2 percent consists of 20-ton trucks, then the mean weight is 2.4 tons. More specifically, Equations 1a and 1b are *not* intended to be used to calculate a separate emission factor for each vehicle class within a mix of traffic on a given unpaved road. That is, in the example, one should *not* determine one factor for the 2-ton vehicles and a second factor for the 20-ton trucks. Instead, only one emission factor should be calculated that represents the "fleet" average of 2.4 tons for all vehicles traveling the road.

Moreover, to retain the quality ratings when addressing a group of unpaved roads, it is necessary that reliable correction parameter values be determined for the road in question. The field and laboratory procedures for determining road surface silt and moisture contents are given in AP-42 Appendices C.1 and C.2. Vehicle-related parameters should be developed by recording visual observations of traffic. In some cases, vehicle parameters for industrial unpaved roads can be determined by reviewing maintenance records or other information sources at the facility.

In the event that site-specific values for correction parameters cannot be obtained, then default values may be used. In the absence of site-specific silt content information, an appropriate mean value from Table 13.2.2-1 may be used as a default value, but the quality rating of the equation is reduced by two letters. Because of significant differences found between different types of road surfaces and between different areas of the country, use of the default moisture content value of 0.5 percent in Equation 1b is discouraged. The quality rating should be downgraded two letters when the default moisture content value is used. (It is assumed that readers addressing industrial roads have access to the information needed to develop average vehicle information in Equation 1a for their facility.)

The effect of routine watering to control emissions from unpaved roads is discussed below in Section 13.2.2.3, "Controls". However, all roads are subject to some natural mitigation because of rainfall and other precipitation. The Equation 1a and 1b emission factors can be extrapolated to annual

average uncontrolled conditions (but including natural mitigation) under the simplifying assumption that annual average emissions are inversely proportional to the number of days with measurable (more than 0.254 mm [0.01 inch]) precipitation:

$$E_{\text{ext}} = E [(365 - P)/365] \quad (2)$$

where:

E_{ext} = annual size-specific emission factor extrapolated for natural mitigation, lb/VMT

E = emission factor from Equation 1a or 1b

P = number of days in a year with at least 0.254 mm (0.01 in) of precipitation (see below)

Figure 13.2.2-1 gives the geographical distribution for the mean annual number of “wet” days for the United States.

Equation 2 provides an estimate that accounts for precipitation on an annual average basis for the purpose of inventorying emissions. It should be noted that Equation 2 does not account for differences in the temporal distributions of the rain events, the quantity of rain during any event, or the potential for the rain to evaporate from the road surface. In the event that a finer temporal and spatial resolution is desired for inventories of public unpaved roads, estimates can be based on a more complex set of assumptions. These assumptions include:

1. The moisture content of the road surface material is increased in proportion to the quantity of water added;
2. The moisture content of the road surface material is reduced in proportion to the Class A pan evaporation rate;
3. The moisture content of the road surface material is reduced in proportion to the traffic volume; and
4. The moisture content of the road surface material varies between the extremes observed in the area. The CHIEF Web site (<http://www.epa.gov/ttn/chief/ap42/ch13/related/c13s02-2.html>) has a file which contains a spreadsheet program for calculating emission factors which are temporally and spatially resolved. Information required for use of the spreadsheet program includes monthly Class A pan evaporation values, hourly meteorological data for precipitation, humidity and snow cover, vehicle traffic information, and road surface material information.

It is emphasized that the simple assumption underlying Equation 2 and the more complex set of assumptions underlying the use of the procedure which produces a finer temporal and spatial resolution have not been verified in any rigorous manner. For this reason, the quality ratings for either approach should be downgraded one letter from the rating that would be applied to Equation 1.

13.2.2.3 Controls¹⁸⁻²²

A wide variety of options exist to control emissions from unpaved roads. Options fall into the following three groupings:

1. Vehicle restrictions that limit the speed, weight or number of vehicles on the road;

2. Surface improvement, by measures such as (a) paving or (b) adding gravel or slag to a dirt road; and
3. Surface treatment, such as watering or treatment with chemical dust suppressants.

Available control options span broad ranges in terms of cost, efficiency, and applicability. For example, traffic controls provide moderate emission reductions (often at little cost) but are difficult to enforce.

Although paving is highly effective, its high initial cost is often prohibitive. Furthermore, paving is not feasible for industrial roads subject to very heavy vehicles and/or spillage of material in transport.

Watering and chemical suppressants, on the other hand, are potentially applicable to most industrial roads at moderate to low costs. However, these require frequent reapplication to maintain an acceptable level of control. Chemical suppressants are generally more cost-effective than water but not in cases of temporary roads (which are common at mines, landfills, and construction sites). In summary, then, one needs to consider not only the type and volume of traffic on the road but also how long the road will be in service when developing control plans.

Vehicle restrictions. These measures seek to limit the amount and type of traffic present on the road or to lower the mean vehicle speed. For example, many industrial plants have restricted employees from driving on plant property and have instead instituted bussing programs. This eliminates emissions due to employees traveling to/from their worksites. Although the heavier average vehicle weight of the busses increases the base emission factor, the decrease in vehicle-miles-traveled results in a lower overall emission rate.

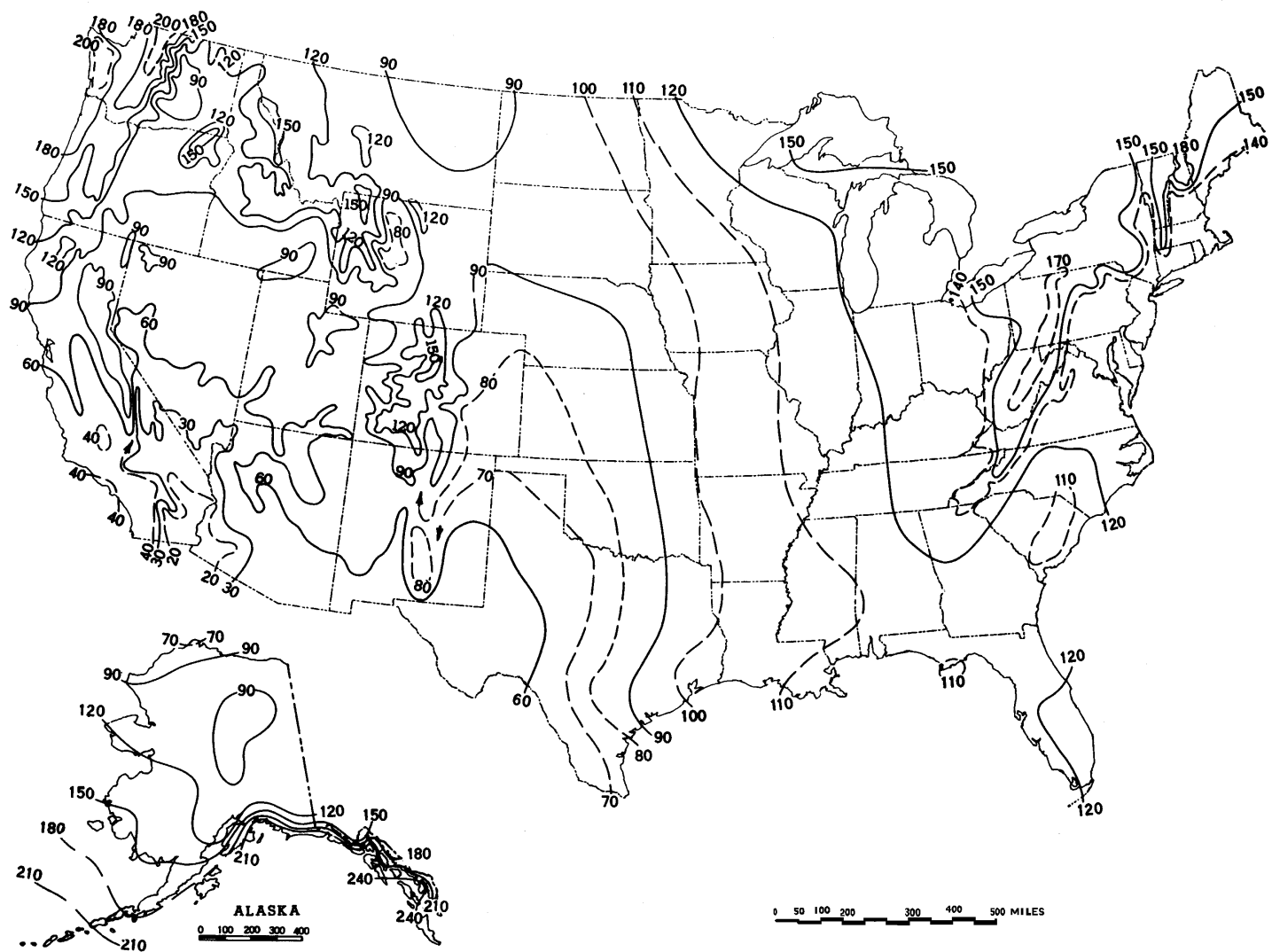


Figure 13.2.2-1. Mean number of days with 0.01 inch or more of precipitation in United States.

Surface improvements. Control options in this category alter the road surface. As opposed to the “surface treatments” discussed below, improvements are relatively “permanent” and do not require periodic retreatment.

The most obvious surface improvement is paving an unpaved road. This option is quite expensive and is probably most applicable to relatively short stretches of unpaved road with at least several hundred vehicle passes per day. Furthermore, if the newly paved road is located near unpaved areas or is used to transport material, it is essential that the control plan address routine cleaning of the newly paved road surface.

The control efficiencies achievable by paving can be estimated by comparing emission factors for unpaved and paved road conditions. The predictive emission factor equation for paved roads, given in Section 13.2.1, requires estimation of the silt loading on the traveled portion of the paved surface, which in turn depends on whether the pavement is periodically cleaned. Unless curbing is to be installed, the effects of vehicle excursion onto unpaved shoulders (berms) also must be taken into account in estimating the control efficiency of paving.

Other improvement methods cover the road surface with another material that has a lower silt content. Examples include placing gravel or slag on a dirt road. Control efficiency can be estimated by comparing the emission factors obtained using the silt contents before and after improvement. The silt content of the road surface should be determined after 3 to 6 months rather than immediately following placement. Control plans should address regular maintenance practices, such as grading, to retain larger aggregate on the traveled portion of the road.

Surface treatments refer to control options which require periodic reapplication. Treatments fall into the two main categories of (a) “wet suppression” (i. e., watering, possibly with surfactants or other additives), which keeps the road surface wet to control emissions and (b) “chemical stabilization/treatment”, which attempts to change the physical characteristics of the surface. The necessary reapplication frequency varies from several minutes for plain water under summertime conditions to several weeks or months for chemical dust suppressants.

Watering increases the moisture content, which conglomerates particles and reduces their likelihood to become suspended when vehicles pass over the surface. The control efficiency depends on how fast the road dries after water is added. This in turn depends on (a) the amount (per unit road surface area) of water added during each application; (b) the period of time between applications; (c) the weight, speed and number of vehicles traveling over the watered road during the period between applications; and (d) meteorological conditions (temperature, wind speed, cloud cover, etc.) that affect evaporation during the period.

Figure 13.2.2-2 presents a simple bilinear relationship between the instantaneous control efficiency due to watering and the resulting increase in surface moisture. The moisture ratio "M" (i.e., the x-axis in Figure 13.2.2-2) is found by dividing the surface moisture content of the watered road by the surface moisture content of the uncontrolled road. As the watered road surface dries, both the ratio M and the predicted instantaneous control efficiency (i.e., the y-axis in the figure) decrease. The figure shows that between the uncontrolled moisture content and a value twice as large, a small increase in moisture content results in a large increase in control efficiency. Beyond that, control efficiency grows slowly with increased moisture content.

Given the complicated nature of how the road dries, characterization of emissions from watered roadways is best done by collecting road surface material samples at various times between water truck passes. (Appendices C.1 and C.2 present the sampling and analysis procedures.) The moisture content measured can then be associated with a control efficiency by use of Figure 13.2.2-2. Samples that reflect average conditions during the watering cycle can take the form of either a series of samples between water applications or a single sample at the midpoint. It is essential that samples be collected during periods with active traffic on the road. Finally, because of different evaporation rates, it is recommended that samples be collected at various times during the year. If only one set of samples is to be collected, these must be collected during hot, summertime conditions.

When developing watering control plans for roads that do not yet exist, it is strongly recommended that the moisture cycle be established by sampling similar roads in the same geographic area. If the moisture cycle cannot be established by similar roads using established watering control plans, the more complex methodology used to estimate the mitigation of rainfall and other precipitation can be used to estimate the control provided by routine watering. An estimate of the maximum daytime Class A pan evaporation (based upon daily evaporation data published in the monthly Climatological Data for the state by the National Climatic Data Center) should be used to insure that adequate watering capability is available during periods of highest evaporation. The hourly precipitation values in the spreadsheet should be replaced with the equivalent inches of precipitation (where the equivalent of 1 inch of precipitation is provided by an application of 5.6 gallons of water per square yard of road). Information on the long term average annual evaporation and on the percentage that occurs between May and October was published in the Climatic Atlas (Reference 16). Figure 13.2.2-3 presents the geographical distribution for "Class A pan evaporation" throughout the United States. Figure 13.2.2-4 presents the geographical distribution of the percentage of this evaporation that occurs between May and October. The U. S. Weather Bureau Class A evaporation pan is a cylindrical metal container with a depth of 10 inches and a diameter of 48 inches. Periodic measurements are made of the changes of the water level.

The above methodology should be used only for prospective analyses and for designing watering programs for existing roadways. The quality rating of an emission factor for a watered road that is based on this methodology should be downgraded two letters. Periodic road surface samples should be collected and analyzed to verify the efficiency of the watering program.

As opposed to watering, chemical dust suppressants have much less frequent reapplication requirements. These materials suppress emissions by changing the physical characteristics of the existing road surface material. Many chemical unpaved road dust suppressants form a hardened surface that binds particles together. After several applications, a treated road often resembles a paved road except that the surface is not uniformly flat. Because the improved surface results in more grinding of small particles, the silt content of loose material on a highly controlled surface may be substantially higher than when the surface was uncontrolled. For this reason, the models presented as Equations 1a and 1b cannot be used to estimate emissions from chemically stabilized roads. Should the road be allowed to return to an

uncontrolled state with no visible signs of large-scale cementing of material, the Equation 1a and 1b emission factors could then be used to obtain conservatively high emission estimates.

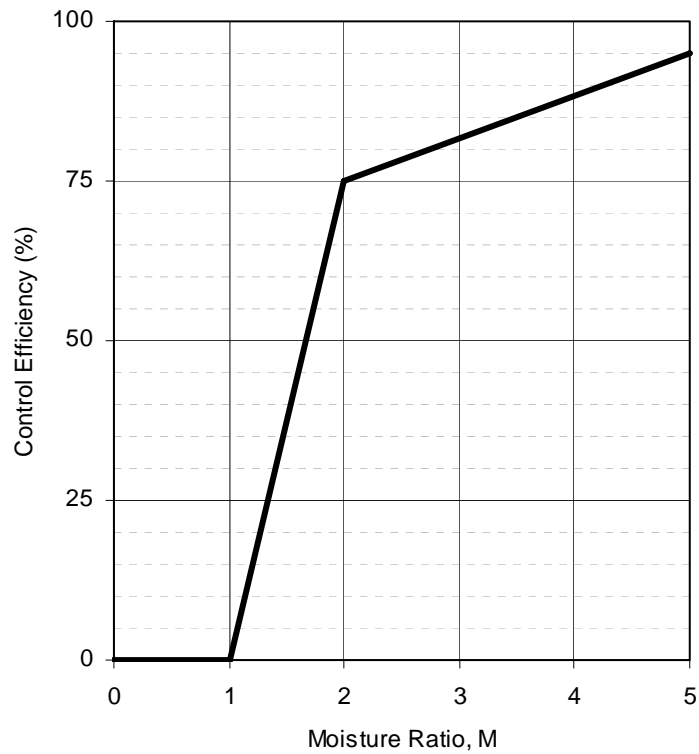


Figure 13.2.2-2. Watering control effectiveness for unpaved travel surfaces

13.2.4 Aggregate Handling And Storage Piles

13.2.4.1 General

Inherent in operations that use minerals in aggregate form is the maintenance of outdoor storage piles. Storage piles are usually left uncovered, partially because of the need for frequent material transfer into or out of storage.

Dust emissions occur at several points in the storage cycle, such as material loading onto the pile, disturbances by strong wind currents, and loadout from the pile. The movement of trucks and loading equipment in the storage pile area is also a substantial source of dust.

13.2.4.2 Emissions And Correction Parameters

The quantity of dust emissions from aggregate storage operations varies with the volume of aggregate passing through the storage cycle. Emissions also depend on 3 parameters of the condition of a particular storage pile: age of the pile, moisture content, and proportion of aggregate fines.

When freshly processed aggregate is loaded onto a storage pile, the potential for dust emissions is at a maximum. Fines are easily disaggregated and released to the atmosphere upon exposure to air currents, either from aggregate transfer itself or from high winds. As the aggregate pile weathers, however, potential for dust emissions is greatly reduced. Moisture causes aggregation and cementation of fines to the surfaces of larger particles. Any significant rainfall soaks the interior of the pile, and then the drying process is very slow.

Silt (particles equal to or less than 75 micrometers [μm] in diameter) content is determined by measuring the portion of dry aggregate material that passes through a 200-mesh screen, using ASTM-C-136 method.¹ Table 13.2.4-1 summarizes measured silt and moisture values for industrial aggregate materials.

Table 13.2.4-1. TYPICAL SILT AND MOISTURE CONTENTS OF MATERIALS AT VARIOUS INDUSTRIES^a

| Industry | No. Of Facilities | Material | Silt Content (%) | | | Moisture Content (%) | | |
|---------------------------------|-------------------|----------------------------|------------------|-----------|------|----------------------|------------|------|
| | | | No. Of Samples | Range | Mean | No. Of Samples | Range | Mean |
| Iron and steel production | 9 | Pellet ore | 13 | 1.3 - 13 | 4.3 | 11 | 0.64 - 4.0 | 2.2 |
| | | Lump ore | 9 | 2.8 - 19 | 9.5 | 6 | 1.6 - 8.0 | 5.4 |
| | | Coal | 12 | 2.0 - 7.7 | 4.6 | 11 | 2.8 - 11 | 4.8 |
| | | Slag | 3 | 3.0 - 7.3 | 5.3 | 3 | 0.25 - 2.0 | 0.92 |
| | | Flue dust | 3 | 2.7 - 23 | 13 | 1 | — | 7 |
| | | Coke breeze | 2 | 4.4 - 5.4 | 4.9 | 2 | 6.4 - 9.2 | 7.8 |
| | | Blended ore | 1 | — | 15 | 1 | — | 6.6 |
| | | Sinter | 1 | — | 0.7 | 0 | — | — |
| | | Limestone | 3 | 0.4 - 2.3 | 1.0 | 2 | ND | 0.2 |
| Stone quarrying and processing | 2 | Crushed limestone | 2 | 1.3 - 1.9 | 1.6 | 2 | 0.3 - 1.1 | 0.7 |
| | | Various limestone products | 8 | 0.8 - 14 | 3.9 | 8 | 0.46 - 5.0 | 2.1 |
| Taconite mining and processing | 1 | Pellets | 9 | 2.2 - 5.4 | 3.4 | 7 | 0.05 - 2.0 | 0.9 |
| | | Tailings | 2 | ND | 11 | 1 | — | 0.4 |
| Western surface coal mining | 4 | Coal | 15 | 3.4 - 16 | 6.2 | 7 | 2.8 - 20 | 6.9 |
| | | Overburden | 15 | 3.8 - 15 | 7.5 | 0 | — | — |
| | | Exposed ground | 3 | 5.1 - 21 | 15 | 3 | 0.8 - 6.4 | 3.4 |
| Coal-fired power plant | 1 | Coal (as received) | 60 | 0.6 - 4.8 | 2.2 | 59 | 2.7 - 7.4 | 4.5 |
| Municipal solid waste landfills | 4 | Sand | 1 | — | 2.6 | 1 | — | 7.4 |
| | | Slag | 2 | 3.0 - 4.7 | 3.8 | 2 | 2.3 - 4.9 | 3.6 |
| | | Cover | 5 | 5.0 - 16 | 9.0 | 5 | 8.9 - 16 | 12 |
| | | Clay/dirt mix | 1 | — | 9.2 | 1 | — | 14 |
| | | Clay | 2 | 4.5 - 7.4 | 6.0 | 2 | 8.9 - 11 | 10 |
| | | Fly ash | 4 | 78 - 81 | 80 | 4 | 26 - 29 | 27 |
| | | Misc. fill materials | 1 | — | 12 | 1 | — | 11 |

^a References 1-10. ND = no data.

13.2.4.3 Predictive Emission Factor Equations

Total dust emissions from aggregate storage piles result from several distinct source activities within the storage cycle:

1. Loading of aggregate onto storage piles (batch or continuous drop operations).
2. Equipment traffic in storage area.
3. Wind erosion of pile surfaces and ground areas around piles.
4. Loadout of aggregate for shipment or for return to the process stream (batch or continuous drop operations).

Either adding aggregate material to a storage pile or removing it usually involves dropping the material onto a receiving surface. Truck dumping on the pile or loading out from the pile to a truck with a front-end loader are examples of batch drop operations. Adding material to the pile by a conveyor stacker is an example of a continuous drop operation.

The quantity of particulate emissions generated by either type of drop operation, per kilogram (kg) (ton) of material transferred, may be estimated, with a rating of A, using the following empirical expression:¹¹

$$E = k(0.0016) \frac{\left(\frac{U}{2.2}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (kg/megagram [Mg])} \quad (1)$$

$$E = k(0.0032) \frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}} \text{ (pound [lb]/ton)}$$

where:

E = emission factor

k = particle size multiplier (dimensionless)

U = mean wind speed, meters per second (m/s) (miles per hour [mph])

M = material moisture content (%)

The particle size multiplier in the equation, k, varies with aerodynamic particle size range, as follows:

| Aerodynamic Particle Size Multiplier (k) For Equation 1 | | | | |
|---|---------|---------|--------|--------------------|
| < 30 µm | < 15 µm | < 10 µm | < 5 µm | < 2.5 µm |
| 0.74 | 0.48 | 0.35 | 0.20 | 0.053 ^a |

^a Multiplier for < 2.5 µm taken from Reference 14.

The equation retains the assigned quality rating if applied within the ranges of source conditions that were tested in developing the equation, as follows. Note that silt content is included, even though silt content does not appear as a correction parameter in the equation. While it is reasonable to expect that silt content and emission factors are interrelated, no significant correlation between the 2 was found during the derivation of the equation, probably because most tests with high silt contents were conducted under lower winds, and vice versa. It is recommended that estimates from the equation be reduced 1 quality rating level if the silt content used in a particular application falls outside the range given:

| Ranges Of Source Conditions For Equation 1 | | | |
|--|----------------------|------------|----------|
| Silt Content (%) | Moisture Content (%) | Wind Speed | |
| | | m/s | mph |
| 0.44 - 19 | 0.25 - 4.8 | 0.6 - 6.7 | 1.3 - 15 |

To retain the quality rating of the equation when it is applied to a specific facility, reliable correction parameters must be determined for specific sources of interest. The field and laboratory procedures for aggregate sampling are given in Reference 3. In the event that site-specific values for

correction parameters cannot be obtained, the appropriate mean from Table 13.2.4-1 may be used, but the quality rating of the equation is reduced by 1 letter.

For emissions from equipment traffic (trucks, front-end loaders, dozers, etc.) traveling between or on piles, it is recommended that the equations for vehicle traffic on unpaved surfaces be used (see Section 13.2.2). For vehicle travel between storage piles, the silt value(s) for the areas among the piles (which may differ from the silt values for the stored materials) should be used.

Worst-case emissions from storage pile areas occur under dry, windy conditions. Worst-case emissions from materials-handling operations may be calculated by substituting into the equation appropriate values for aggregate material moisture content and for anticipated wind speeds during the worst case averaging period, usually 24 hours. The treatment of dry conditions for Section 13.2.2, vehicle traffic, "Unpaved Roads", follows the methodology described in that section centering on parameter p. A separate set of nonclimatic correction parameters and source extent values corresponding to higher than normal storage pile activity also may be justified for the worst-case averaging period.

13.2.4.4 Controls¹²⁻¹³

Watering and the use of chemical wetting agents are the principal means for control of aggregate storage pile emissions. Enclosure or covering of inactive piles to reduce wind erosion can also reduce emissions. Watering is useful mainly to reduce emissions from vehicle traffic in the storage pile area. Watering of the storage piles themselves typically has only a very temporary slight effect on total emissions. A much more effective technique is to apply chemical agents (such as surfactants) that permit more extensive wetting. Continuous chemical treating of material loaded onto piles, coupled with watering or treatment of roadways, can reduce total particulate emissions from aggregate storage operations by up to 90 percent.¹²

References For Section 13.2.4

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2. R. Bohn, *et al.*, *Fugitive Emissions From Integrated Iron And Steel Plants*, EPA-600/2-78-050, U. S. Environmental Protection Agency, Cincinnati, OH, March 1978.
3. C. Cowherd, Jr., *et al.*, *Iron And Steel Plant Open Dust Source Fugitive Emission Evaluation*, EPA-600/2-79-103, U. S. Environmental Protection Agency, Cincinnati, OH, May 1979.
4. *Evaluation Of Open Dust Sources In The Vicinity Of Buffalo, New York*, EPA Contract No. 68-02-2545, Midwest Research Institute, Kansas City, MO, March 1979.
5. C. Cowherd, Jr., and T. Cuscino, Jr., *Fugitive Emissions Evaluation*, MRI-4343-L, Midwest Research Institute, Kansas City, MO, February 1977.
6. T. Cuscino, Jr., *et al.*, *Taconite Mining Fugitive Emissions Study*, Minnesota Pollution Control Agency, Roseville, MN, June 1979.
7. *Improved Emission Factors For Fugitive Dust From Western Surface Coal Mining Sources*, 2 Volumes, EPA Contract No. 68-03-2924, PEDCo Environmental, Kansas City, MO, and Midwest Research Institute, Kansas City, MO, July 1981.
8. *Determination Of Fugitive Coal Dust Emissions From Rotary Railcar Dumping*, TRC, Hartford, CT, May 1984.
9. *PM-10 Emission Inventory Of Landfills In the Lake Calumet Area*, EPA Contract No. 68-02-3891, Midwest Research Institute, Kansas City, MO, September 1987.

USEPA Emission Standards for Tier 1 - 3 engines

| Engine Power (hp) | Model Years | Regulation | Emission Standards (g/hp-hr) | | | | | Year the Std Takes Effect |
|-----------------------------|-------------|------------|------------------------------|------------------|---------------------|-----------------------|-----------------|---------------------------|
| | | | HC ^{a, d} | VHC ^b | NOx ^{a, d} | NMHC+NOx ^a | CO ^a | PM ^a |
| 50 to <75 | 1998-2003 | Tier 1 | | | 6.90 | | | |
| | 2004-2007 | Tier 2 | 0.40 | 0.3996 | 5.20 | 5.60 | 3.70 | 0.30 |
| | 2008-2012 | Tier 3 | 0.20 | 0.1998 | 3.3 | 3.50 | 3.70 | ^c |
| >75 to <100 | 1998-2003 | Tier 1 | | | 6.90 | | | |
| | 2004-2007 | Tier 2 | 0.40 | 0.3996 | 5.20 | 5.60 | 3.70 | 0.30 |
| | 2008-2011 | Tier 3 | 0.20 | 0.1998 | 3.3 | 3.50 | 3.70 | ^c |
| >100 to <175 | 1997-2002 | Tier 1 | | | 6.90 | | | |
| | 2003-2006 | Tier 2 | 0.40 | 0.3996 | 4.5 | 4.90 | 3.70 | 0.22 |
| | 2007-2011 | Tier 3 | 0.20 | 0.1998 | 2.8 | 3.00 | 3.70 | ^c |
| >175 to <300 | 1996-2002 | Tier 1 | 1.00 | 0.9990 | 6.90 | | 8.50 | 0.40 |
| | 2003-2005 | Tier 2 | 0.40 | 0.3996 | 4.5 | 4.90 | 2.60 | 0.15 |
| | 2006-2010 | Tier 3 | 0.20 | 0.1998 | 2.8 | 3.00 | 2.60 | ^c |
| >300 to <600 | 1996-2000 | Tier 1 | 1.00 | 0.9990 | 6.90 | | 8.50 | 0.40 |
| | 2001-2005 | Tier 2 | 0.30 | 0.2997 | 4.5 | 4.80 | 2.60 | 0.15 |
| | 2006-2010 | Tier 3 | 0.20 | 0.1998 | 2.8 | 3.00 | 2.60 | ^c |
| >600 to 750 | 1996-2001 | Tier 1 | 1.00 | 0.9990 | 6.90 | | 8.50 | 0.40 |
| | 2002-2005 | Tier 2 | 0.30 | 0.2997 | 4.5 | 4.80 | 2.60 | 0.15 |
| | 2006-2010 | Tier 3 | 0.20 | 0.1998 | 2.8 | 3.00 | 2.60 | ^c |
| >750 except generator sets | 2000-2005 | Tier 1 | 1.00 | 0.9990 | 6.90 | | 8.50 | 0.40 |
| | 2006-2010 | Tier 2 | 0.30 | 0.2997 | 4.5 | 4.80 | 2.60 | 0.15 |
| Generator sets >750 to 1200 | 2000-2005 | Tier 1 | 1.00 | 0.9990 | 6.90 | | 8.50 | 0.40 |
| | 2006-2010 | Tier 2 | 0.30 | 0.2997 | 4.5 | 4.80 | 2.60 | 0.15 |
| Generator sets >1200 | 2000-2005 | Tier 1 | 1.00 | 0.9990 | 6.90 | | 8.50 | 0.40 |
| | 2006-2010 | Tier 2 | 0.30 | 0.2997 | 4.5 | 4.80 | 2.60 | 0.15 |

Notes:

- ^a Nonroad CI Engine Emission Standards from Title 13, California Code of Regulations, Section 2423 (ARB Executive Order "Std").
- ^b VHC = Total Hydrocarbons (THC) minus methane and ethane fractions. Equivalent APCD standard. (**Highlighted in Orange**) See *Conversion Factors to Hydrocarbon Emission Components*, Report No. NR-002a, US EPA, 5/2003. {VHC = ROC}
- ^c Tier 3 PM standards have not yet been adopted. Tier 3 engines must meet the Tier 2 PM standard until the Tier 3 PM standard has been adopted.
- ^d Tier 2 and Tier 3 HC and NOx equivalent standards used to determine the NMHC + NOx standard. (**Highlighted in blue**)

Nonroad Compression-Ignition Engines: Exhaust Emission Standards

| | Rated Power (kW) | Tier | Model Year | NMHC (g/kW-hr) | NMHC + NOx (g/kW-hr) | NOx (g/kW-hr) | PM (g/kW-hr) | CO (g/kW-hr) | Smoke ^a (Percentage) | Useful Life (hours /years) ^b | Warranty Period (hours /years) ^b |
|---------|------------------|---------------------------|------------------------|----------------|----------------------|---------------|-------------------|--------------|---------------------------------|---|---|
| Federal | kW < 8 | 1 | 2000-2004 | - | 10.5 | - | 1.0 | 8.0 | 20/15/50 | 3,000/5 | 1,500/2 |
| | | 2 | 2005-2007 | - | 7.5 | - | 0.80 | 8.0 | | | |
| | | 4 | 2008+ | - | 7.5 | - | 0.40 ^c | 8.0 | | | |
| | 8 ≤ kW < 19 | 1 | 2000-2004 | - | 9.5 | - | 0.80 | 6.6 | | 3,000/5 | 1,500/2 |
| | | 2 | 2005-2007 | - | 7.5 | - | 0.80 | 6.6 | | | |
| | | 4 | 2008+ | - | 7.5 | - | 0.40 | 6.6 | | | |
| | 19 ≤ kW < 37 | 1 | 1999-2003 | - | 9.5 | - | 0.80 | 5.5 | | 5,000/7 ^d | 3,000/5 ^e |
| | | 2 | 2004-2007 | - | 7.5 | - | 0.60 | 5.5 | | | |
| | | 4 | 2008-2012 | - | 7.5 | - | 0.30 | 5.5 | | | |
| | | | 2013+ | - | 4.7 | - | 0.03 | 5.5 | | | |
| | 37 ≤ kW < 56 | 1 | 1998-2003 | - | - | 9.2 | - | - | | 8,000/10 | 3,000/5 |
| | | 2 | 2004-2007 | - | 7.5 | - | 0.40 | 5.0 | | | |
| | | 3 ^f | 2008-2011 | - | 4.7 | - | 0.40 | 5.0 | | | |
| | | 4 (Option 1) ^g | 2008-2012 | - | 4.7 | - | 0.30 | 5.0 | | | |
| | | 4 (Option 2) ^g | 2012 | - | 4.7 | - | 0.03 | 5.0 | | | |
| | | 4 | 2013+ | - | 4.7 | - | 0.03 | 5.0 | | | |
| | 56 ≤ kW < 75 | 1 | 1998-2003 | - | - | 9.2 | - | - | | | |
| | | 2 | 2004-2007 | - | 7.5 | - | 0.40 | 5.0 | | | |
| | | 3 | 2008-2011 | - | 4.7 | - | 0.40 | 5.0 | | | |
| | | 4 | 2012-2013 ^h | - | 4.7 | - | 0.02 | 5.0 | | | |
| | | | 2014+ ⁱ | 0.19 | - | 0.40 | 0.02 | 5.0 | | | |
| | 75 ≤ kW < 130 | 1 | 1997-2002 | - | - | 9.2 | - | - | | | |
| | | 2 | 2003-2006 | - | 6.6 | - | 0.30 | 5.0 | | | |
| | | 3 | 2007-2011 | - | 4.0 | - | 0.30 | 5.0 | | | |
| | | 4 | 2012-2013 ^h | - | 4.0 | - | 0.02 | 5.0 | | | |
| | | | 2014+ | 0.19 | - | 0.40 | 0.02 | 5.0 | | | |

Continued

| | Rated Power (kW) | Tier | Model Year | NMHC (g/kW-hr) | NMHC + NOx (g/kW-hr) | NOx (g/kW-hr) | PM (g/kW-hr) | CO (g/kW-hr) | Smoke ^a (Percentage) | Useful Life (hours /years) ^b | Warranty Period (hours /years) ^b |
|---------|------------------|------|------------------------|------------------|----------------------|------------------|-------------------|--------------|---------------------------------|---|---|
| Federal | 130 ≤ kW < 225 | 1 | 1996-2002 | 1.3 ^j | - | 9.2 | 0.54 | 11.4 | 20/15/50 | 8,000/10 | 3,000/5 |
| | | 2 | 2003-2005 | - | 6.6 | - | 0.20 | 3.5 | | | |
| | | 3 | 2006-2010 | - | 4.0 | - | 0.20 | 3.5 | | | |
| | | 4 | 2011-2013 ^h | - | 4.0 | - | 0.02 | 3.5 | | | |
| | | | 2014+ ⁱ | 0.19 | - | 0.40 | 0.02 | 3.5 | | | |
| | 225 ≤ kW < 450 | 1 | 1996-2000 | 1.3 ^j | - | 9.2 | 0.54 | 11.4 | | | |
| | | 2 | 2001-2005 | - | 6.4 | - | 0.20 | 3.5 | | | |
| | | 3 | 2006-2010 | - | 4.0 | - | 0.20 | 3.5 | | | |
| | | 4 | 2011-2013 ^h | - | 4.0 | - | 0.02 | 3.5 | | | |
| | | | 2014+ ⁱ | 0.19 | - | 0.40 | 0.02 | 3.5 | | | |
| | 450 ≤ kW < 560 | 1 | 1996-2001 | 1.3 ^j | - | 9.2 | 0.54 | 11.4 | | | |
| | | 2 | 2002-2005 | - | 6.4 | - | 0.20 | 3.5 | | | |
| | | 3 | 2006-2010 | - | 4.0 | - | 0.20 | 3.5 | | | |
| | | 4 | 2011-2013 ^h | - | 4.0 | - | 0.02 | 3.5 | | | |
| | | | 2014+ ⁱ | 0.19 | - | 0.40 | 0.02 | 3.5 | | | |
| | 560 ≤ kW < 900 | 1 | 2000-2005 | 1.3 ^j | - | 9.2 | 0.54 | 11.4 | | | |
| | | 2 | 2006-2010 | - | 6.4 | - | 0.20 | 3.5 | | | |
| | | 4 | 2011-2014 | 0.40 | - | 3.5 | 0.10 | 3.5 | | | |
| | | | 2015+ ⁱ | 0.19 | - | 3.5 ^k | 0.04 ^l | 3.5 | | | |
| | kW > 900 | 1 | 2000-2005 | 1.3 ^j | - | 9.2 | 0.54 | 11.4 | | | |
| | | 2 | 2006-2010 | - | 6.4 | - | 0.20 | 3.5 | | | |
| | | 4 | 2011-2014 | 0.40 | - | 3.5 ^k | 0.10 | 3.5 | | | |
| | | | 2015+ ⁱ | 0.19 | - | 3.5 ^k | 0.04 ^l | 3.5 | | | |

Notes on following page.

Notes:

- For Tier 1, 2, and 3 standards, exhaust emissions of nitrogen oxides (NO_x), carbon monoxide (CO), hydrocarbons (HC), and non-methane hydrocarbons (NMHC) are measured using the procedures in 40 Code of Federal Regulations (CFR) Part 89 Subpart E. For Tier 1, 2, and 3 standards, particulate matter (PM) exhaust emissions are measured using the California Regulations for New 1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines.
- For Tier 4 standards, engines are tested for transient and steady-state exhaust emissions using the procedures in 40 CFR Part 1039 Subpart F. Transient standards do not apply to engines below 37 kilowatts (kW) before the 2013 model year, constant-speed engines, engines certified to Option 1, and engines above 560 kW.
- Tier 2 and later model naturally aspirated nonroad engines shall not discharge crankcase emissions into the atmosphere unless these emissions are permanently routed into the exhaust. This prohibition does not apply to engines using turbochargers, pumps, blowers, or superchargers.
- In lieu of the Tier 1, 2, and 3 standards for NO_x, NMHC + NO_x, and PM, manufacturers may elect to participate in the averaging, banking, and trading (ABT) program described in 40 CFR Part 89 Subpart C.
- a** Smoke emissions may not exceed 20 percent during the acceleration mode, 15 percent during the lugging mode, and 50 percent during the peaks in either mode. Smoke emission standards do not apply to single-cylinder engines, constant-speed engines, or engines certified to a PM emission standard of 0.07 grams per kilowatt-hour (g/kW-hr) or lower. Smoke emissions are measured using procedures in 40 CFR Part 86 Subpart I.
- b** Useful life and warranty period are expressed hours and years, whichever comes first.
- c** Hand-startable air-cooled direct injection engines may optionally meet a PM standard of 0.60 g/kW-hr. These engines may optionally meet Tier 2 standards through the 2009 model years. In 2010 these engines are required to meet a PM standard of 0.60 g/kW-hr.
- d** Useful life for constant speed engines with rated speed 3,000 revolutions per minute (rpm) or higher is 5 years or 3,000 hours, whichever comes first.
- e** Warranty period for constant speed engines with rated speed 3,000 rpm or higher is 2 years or 1,500 hours, whichever comes first.
- f** These Tier 3 standards apply only to manufacturers selecting Tier 4 Option 2. Manufacturers selecting Tier 4 Option 1 will be meeting those standards in lieu of Tier 3 standards.
- g** A manufacturer may certify all their engines to either Option 1 or Option 2 sets of standards starting in the indicated model year. Manufacturers selecting Option 2 must meet Tier 3 standards in the 2008-2011 model years.
- h** These standards are phase-out standards. Not more than 50 percent of a manufacturer's engine production is allowed to meet these standards in each model year of the phase out period. Engines not meeting these standards must meet the final Tier 4 standards.
- i** These standards are phased in during the indicated years. At least 50 percent of a manufacturer's engine production must meet these standards during each year of the phase in. Engines not meeting these standards must meet the applicable phase-out standards.
- j** For Tier 1 engines the standard is for total hydrocarbons.
- k** The NO_x standard for generator sets is 0.67 g/kW-hr.
- l** The PM standard for generator sets is 0.03 g/kW-hr.

Citations: Code of Federal Regulations (CFR) citations:

- 40 CFR 89.112 = Exhaust emission standards
- 40 CFR 1039.101 = Exhaust emission standards for after 2014 model year
- 40 CFR 1039.102 = Exhaust emission standards for model year 2014 and earlier
- 40 CFR 1039 Subpart F = Exhaust emissions transient and steady state test procedures
- 40 CFR 86 Subpart I = Smoke emission test procedures
- 40 CFR 1065 = Test equipment and emissions measurement procedures

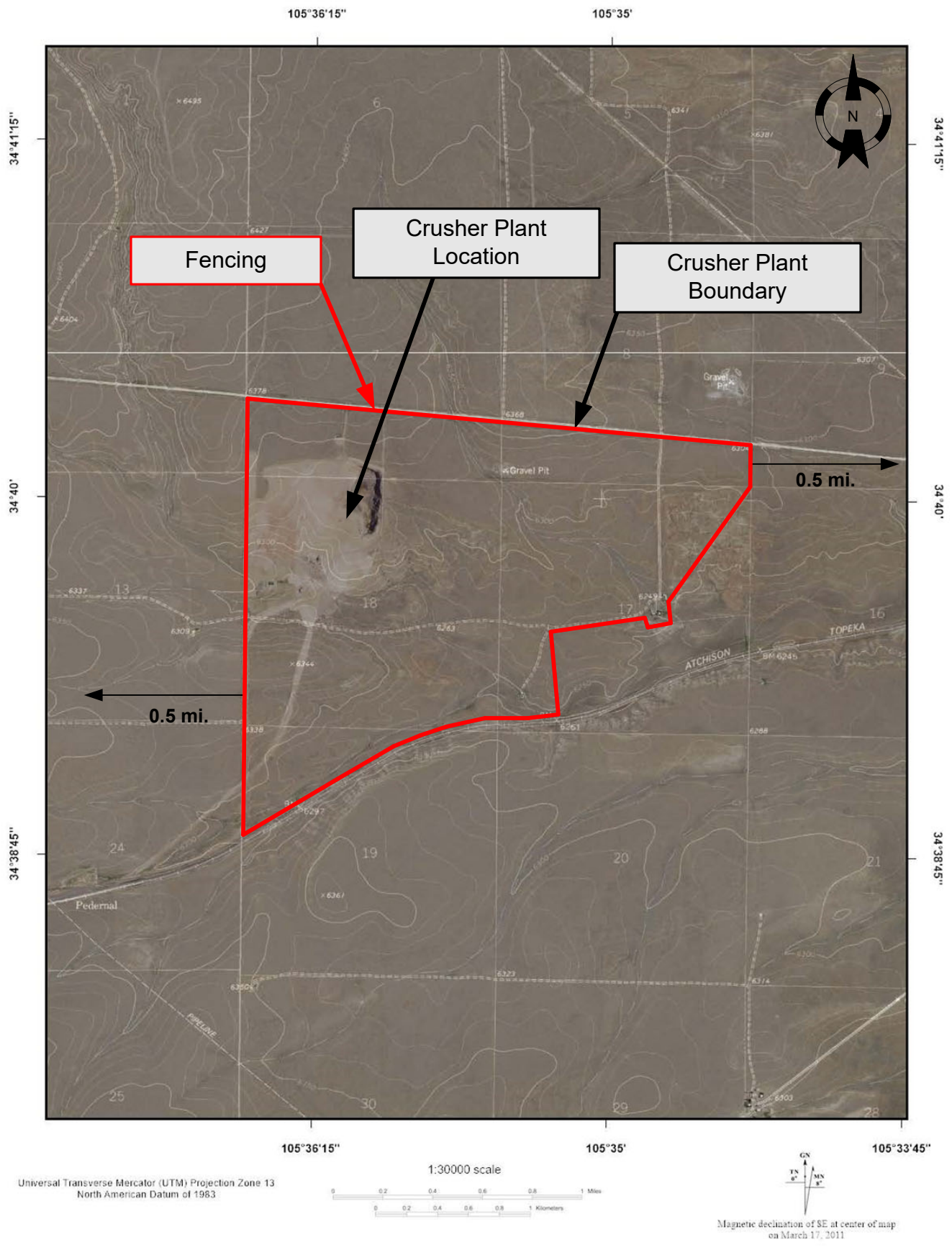
Section 8


Map(s)

A map such as a 7.5 minute topographic quadrangle showing the exact location of the source. The map shall also include the following:

| | |
|--|--|
| The UTM or Longitudinal coordinate system on both axes | An indicator showing which direction is north |
| A minimum radius around the plant of 0.8km (0.5 miles) | Access and haul roads |
| Topographic features of the area | Facility property boundaries |
| The name of the map | The area which will be restricted to public access |
| A graphical scale | |

An area map is attached.



| | | | | | | | |
|---|------------------|-------------------|--|--|---|-------------------------------|-----------|
|  | | | Area Map | | Fisher Sand & Gravel NM Inc. | | |
| Scale: 1:30,000 | Drawn by: MDF | Date: 6/8/2022 | Crusher Plant N 34° 39' 57.8" Latitude W 105° 36' 3.51" Longitude | | Project No.: | File Name: | Figure: |
| | Chk'd by: | Date: | | | 067-007 | Crusher Plant Area Map | Section 8 |

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

(This proof is required by: 20.2.72.203.A.14 NMAC “Documentary Proof of applicant’s public notice”)

☒ I have read the AQB “Guidelines for Public Notification for Air Quality Permit Applications”

This document provides detailed instructions about public notice requirements for various permitting actions. It also provides public notice examples and certification forms. Material mistakes in the public notice will require a re-notice before issuance of the permit.

Unless otherwise allowed elsewhere in this document, the following items document proof of the applicant’s Public Notification. Please include this page in your proof of public notice submittal with checkmarks indicating which documents are being submitted with the application.

New Permit and Significant Permit Revision public notices must include all items in this list.

Technical Revision public notices require only items 1, 5, 9, and 10.

Per the Guidelines for Public Notification document mentioned above, include:

1. ☒ A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
 2. ☒ A list of the places where the public notice has been posted in at least four publicly accessible and conspicuous places, including the proposed or existing facility entrance. (e.g: post office, library, grocery, etc.)
 3. ☒ A copy of the property tax record (20.2.72.203.B NMAC).
 4. ☒ A sample of the letters sent to the owners of record.
 5. ☒ A sample of the letters sent to counties, municipalities, and Indian tribes.
 6. ☒ A sample of the public notice posted and a verification of the local postings.
 7. ☒ A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
 8. ☒ A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
 9. ☒ A copy of the classified or legal ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
 10. ☒ A copy of the display ad including the page header (date and newspaper title) or its affidavit of publication stating the ad date, and a copy of the ad. When appropriate, this ad shall be printed in both English and Spanish.
 11. ☒ A map with a graphic scale showing the facility boundary and the surrounding area in which owners of record were notified by mail. This is necessary for verification that the correct facility boundary was used in determining distance for notifying land owners of record.
-

All required documentation from the above checklist is included in the following pages.

The classified/legal ad and the display ad were published in “The Independent” and the public service announcement was sent to KXNM 88.7 FM Radio (no response received).

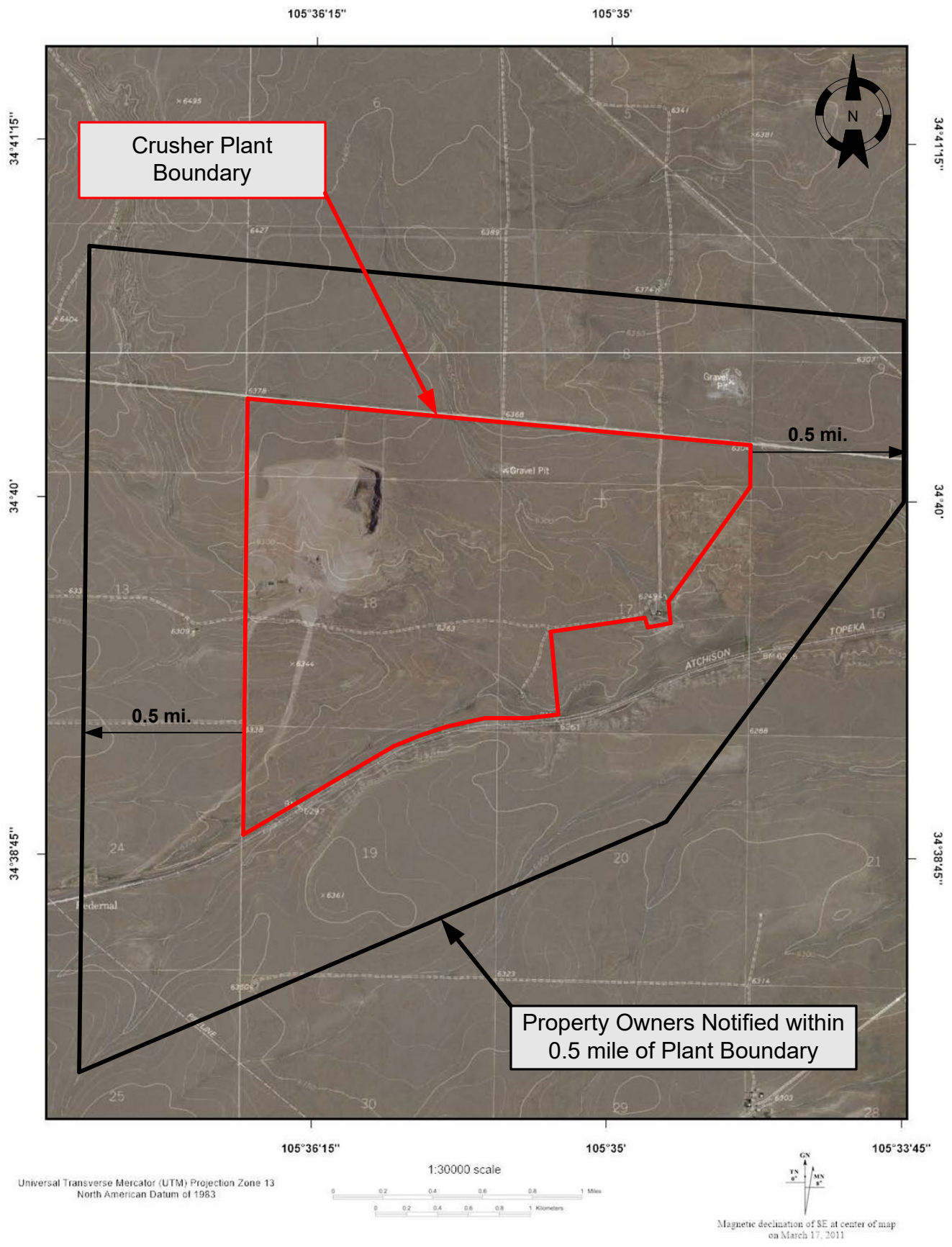
The Fisher Sand & Gravel NM Inc. Crusher Plant will be located in Torrance County, which is designated as a Class B county. As such, property owners within 0.5 mile of the property were sent notifications (20.2.72.203(B)(1)(a) NMAC). See Table 9.1 for a list of the notified owners. Property owners on record were found by contacting the Torrance County Assessor’s Office. A copy of the parcel’s property tax record is also attached.


Notices were sent to all municipalities, counties, and Indian tribes within a 10-mile radius of the Plant (20.2.72.203(B)(2) NMAC). See Table 9.1 for a list of the counties, municipalities and tribes and to whom the notices were sent in each group.

Table 9.1: Notified Municipalities, Counties and Property Owners

| Name | Mailing Address | Category of Notice |
|------------------------------|---|---------------------------|
| Delma E Prather Rev Trust | P.O. Box 764 Estancia, NM 87016 | Nearby Property Owner |
| New Mexico State Land Office | PO Box 1148 Santa Fe, NM 87504 | Nearby Property Owner |
| Torrance County | County Manager P.O. Box 48 Estancia, NM 87016 | County |
| Village of Encino | P.O. Box 163 Encino, NM 88321-0163 | Municipality |

Note: There are no Indian Tribes within 10 miles of the proposed site.



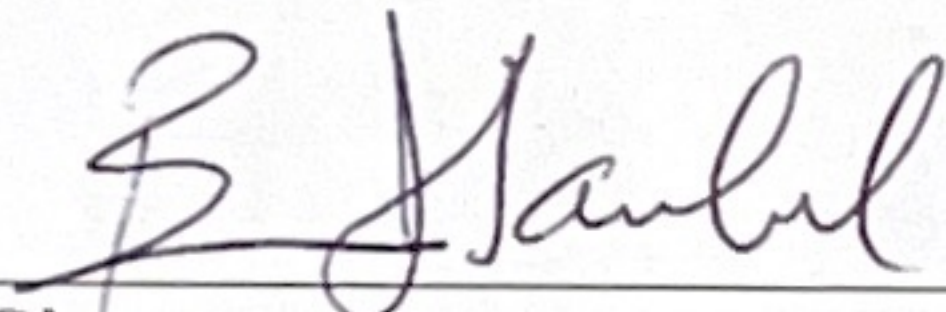
| | | | | | | | |
|---|------------------|-------------------|--|--|------------------------------|-----------------------------------|-----------|
|  | | | Area Map | | Fisher Sand & Gravel NM Inc. | | |
| Scale: 1:30,000 | Drawn by: MDF | Date: 6/8/2022 | Crusher Plant N 34° 39' 57.8" Latitude W 105° 36' 3.51" Longitude | | Project No.: | File Name: | Figure: |
| | Chk'd by: | Date: | | | 067-007 | Crusher Plant Area Map | Section 9 |

General Posting of Notices – Certification

I, Brian Gambrel, the undersigned, certify that on **6/16/2022**, I posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in or near Encino, Torrance County, State of New Mexico on the following dates:

1. Facility entrance 6/16/2022
2. USPS in Encino 6/16/2022
3. Encino Village Hall 6/16/2022
4. Firehouse Mercantile, Encino 6/16/2022

Signed this 16th day of June, 2022



Signature

6/16/2022

Date

Brian Gambrel

Printed Name

Project Manager-Fisher Sand & Gravel NM Inc.

Title

NOTICE

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is June 30, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude - 105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

The proposed **construction** consists of a Crushing Plant including generator engines, heaters, bins, bin feeders, conveyors, bin loading, truck loading and hauling, crushers, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

| Pollutant: | Pounds per hour | Tons per year |
|--|-----------------|---------------|
| PM ₁₀ | 3.84 pph | 15.78 tpy |
| PM _{2.5} | 1.05 pph | 4.51 tpy |
| Sulfur Dioxide (SO ₂) | 1.71 pph | 7.48 tpy |
| Nitrogen Oxides (NO _x) | 11.98 pph | 52.46 tpy |
| Carbon Monoxide (CO) | 12.67 pph | 55.48 tpy |
| Volatile Organic Compounds (VOC) | 2.73 pph | 11.96 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 0.01 pph | 0.05 tpy |
| Toxic Air Pollutant (TAP) | 0.01 pph | 0.05 tpy |
| Green House Gas Emissions as Total CO ₂ e | n/a | 5,074.0 tpy |

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m.. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Atención

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-476-5557.

Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yuridin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.



The Independent

July 22-28, 2022 • Vol. 24, No. 2 50¢

INSIDE: Roaring Mouse • Summer Sports Camp • Wild Things

Santa Fe Co. calls out Forest Service on fire



By Leota Harriman

In March, the Forest Service released an Environmental Assessment report about the

Española and Pecos-Las Vegas ranger districts about what they call the Santa Fe Mountains Landscape Resiliency Project. Last week the federal agency got some heat from Santa Fe County about their land management practices with respect to fire.

The Landscape Resiliency Project is proposed by the Forest Service, which issued a 260-page report on its Environmental Assessment. A

second report, “Gallinas-Las Dispensas Prescribed Fire Declared Wildfire Review,” analyzed the events leading up to the catastrophic Hermit's Peak/Calf Canyon Fire, which to date has burned nearly 350,000 acres and hundreds of homes.

At last report, the fire—two prescribed fires that merged into one—is 93% contained, and is under “full suppression strategy.”

The Santa Fe County Commission wants the Forest Service to do an Environmental Impact Statement, on the Santa Fe Mountains Landscape Resiliency Project, and passed a resolution unanimously to say so. District 3 Commissioner Rudy Nelson Garcia was not present.

Written by Commissioner Anna Hansen, the resolution calls the

See FIRE, page 4

Edgewood Library is under new management



By Tamara Bicknell-Lombardi

The Edgewood Community Library has a new Library Operations Manager, after Andrea Corvin left the library to pursue a very good career opportunity. “She was sad to leave and we were sad to see her go,” said Rachel Martinez, the new library manager.

She said the library was not expecting Corvin to leave so soon and Martinez was on maternity leave when the decision was made. Martinez said she decided, “out of personal choice,” to come back to the library, so that during the interim, the library could remain open.

She said she didn't want community members to miss out on summer activities at the library, especially kids. She said there were two library positions that were open and filled internally. She filled the managerial position, which she filled and Brandyn Burke will be filling the librarian position just under the operations manager.

Burke is currently working with the Town of Edgewood, directing the YES Program, a summer youth

See LIBRARY, page 5

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NOTICE OF AIR QUALITY PERMIT APPLICATION

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is July 25, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude -105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

The proposed construction consists of a Crushing Plant including generator engines, heaters, bins, bin feeders, conveyors, bin loading, truck loading and hauling, crushers, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

Pollutant:
Pounds per hour
Tons per year
PM 10
3.84 pph
15.78 tpy
PM 2.5
1.05 pph
4.51 tpy
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1.71 pph
7.48 tpy
Nitrogen Oxides (NO_x)
11.98 pph
52.46 tpy
Carbon Monoxide (CO)
12.67 pph
55.48 tpy
Volatile Organic Compounds (VOC)
2.73 pph
11.96 tpy
Total sum of all Hazardous Air Pollutants (HAPs)
0.01 pph

0.05 tpy
Toxic Air Pollutant (TAP)
0.01 pph
0.05 tpy
Green House Gas Emissions as Total CO₂e
n/a
5,074.0 tpy

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The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico

Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location. Atención

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of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

7/22/22



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LEGAL NOTICE

PUBLIC NOTICE OF SUBMITTAL OF DOCUMENTATION FOR A SOLID WASTE FACILITY INTERIM REVIEW, Special Waste Disposal, Inc. Landfill, Torrance County, New Mexico

Pursuant to Section 22 of the New Mexico Solid Waste Act (Section 74-9-22 NMSA 1978) and 20.9.3.8.G and 20.9.3.24 NMAC (New Mexico Solid Waste Rules), notice is hereby given to the public and other affected individuals and entities that Special Waste Disposal, Inc. Landfill has submitted documentation for an interim permit review. In accordance with Section 74-9-24 NMSA 1978, the Secretary of the Environment Department shall review solid waste facility permits for privately-owned and operated solid waste facilities at least every five (5) years. The Applicant was issued a solid waste facility permit on October 16, 2007. Pertinent information related to this interim permit review is as follows.

1. Name, Address and Phone Number of Permittee and Contact Person: The Permittee is Special Waste Disposal, Inc. 5904 Florence Ave. NE Albuquerque, New Mexico 98113 The contact person for the Permittee is Adrian Montano, telephone: (505) 828-2650.

2. Start-Up Date and Planned Hours of Operation: The Landfill is an existing facility that opened in 1986 and is currently operating under NMED Solid Waste Facility Permit No. SWM 0113035 (SP) issued by NMED on October 16, 2007. The Landfill property is owned by Special Waste Disposal, Inc. Current and proposed operating hours for the landfill are by appointment only but disposal is normally

allowed between 7:30am and 5:30pm Monday through Thursday. The Landfill may operate outside scheduled operating hours to accommodate site preparation, inclement weather conditions, cover, special projects, construction, internal operation / projects, maintenance, monitoring and other special circumstances.

3. Description of the Facility:

a. General Process: The Landfill will receive asbestos waste from commercial haulers and the public. The asbestos waste will be placed in phases/cells that are designed in accordance with the Solid Waste Rules. At the end of each working day, the working face (waste) will be covered with at least 6" of soil or an alternative cover approved by NMED.

b. Location: The Landfill disposal site is located approximately fourteen miles southeast of Mountainair, NM on highway 55, Torrance County, New Mexico at mile marker 49, turn east 1 mile on County Road BO 29.

c. Size: The area within the facility boundary is 320 acres with 24.5 acres permitted for waste disposal.

d. Quantities and Rate of Solid Waste: It is anticipated that the Landfill may receive an average of 35 cu. yds. of solid waste per day (approximately 10,000 cu. yds./year) and may receive more or less asbestos waste depending upon market conditions. The quantity and rate may increase in the future as demand increases in response to population increases and with regional construction projects.

e. Types of Waste: 150,000 cu. yds. of waste permitted for acceptance at the landfill and approximate quantities of 10,000 cu. yds. of asbestos waste re-

ceived each year.

4. Origin of Waste: It is anticipated that the majority of wastes received will originate primarily from Bernalillo County and throughout New Mexico and West Texas but may come from areas outside these counties.

5. Comments: Questions or comments regarding the interim permit review documentation should be directed to Adrian Montano at the address in Section 1, and to:

Erica L. Gordon
New Mexico Environment Department, Solid Waste Bureau
P.O. Box 5469
Santa Fe, New Mexico 87502
505-670-2018

Documentation submitted by the Permittee for the interim permit review may be reviewed at: Special Waste Disposal, Inc., 91 Liberty Valley Road, Mountainair, New Mexico 87036.
Business hours: By appointment only but usually 7:30am-5:30pm Monday through Thursday.
Contact: Ray Hendricks.
Contact phone number: (505) 544-6333
NMED Solid Waste Bureau, 1190 St. Francis Drive, Harold Runnels Building, Suite N2150, Santa Fe, NM.
Business hours: 8am-5pm Monday through Friday
Contact: Erica L. Gordon.
Contact phone number: (505) 670-2018

AVISO PÚBLICO DE PRESENTACIÓN DE DOCUMENTACIÓN PARA UNA INSTALACIÓN DE RESIDUOS SÓLIDOS PROVISIONAL REVISIÓN, Eliminación de Desechos Especiales, Inc, Landfill Condado de Torrance, Nuevo México

De conformidad con la Sección 22 de la Ley de Desechos Sólidos de Nuevo México (Sección 74-9-22 NMSA 1978) y 20.9.3.8.G y 20.9.3.24 NMAC (Reglas de Desechos Sólidos de Nuevo México), por la presente se notifica al público y a otras personas y entidades afectadas que Special Waste Disposal, Inc. Landfill ha presentado documentación para una revisión provisional del permiso. De conformidad con la Sección 17-9-24 NMSA 1978, al Secretario del Departamento de Medio Ambiente revisará los permisos de instalaciones de desechos sólidos el 16 de octubre de 2007. La información pertinente relacionada con esta revisión provisional del permiso es la siguiente.

1. Nombre, dirección y numero de persona de permiso y persona de contacto: El permisionario es Special Waste Disposal, Inc. 5904 Avenida Florencia NE Albuquerque, Nuevo México 87113. La persona de contacto para el Permisionario es Adrian Montano, teléfono: (505) 828-2650.

2. Fecha de inicio y horas de operación planificadas: El vertedero es una instalación existente que se inauguró en 1986 y actualmente opera bajo el Permiso no. SWM 0113035 (SP) emitido por NMED el 16 de octubre de 2007. La propiedad del vertedero es propiedad de Special Waste Disposal, Inc. Las horas de operación actuales y propuestas para el vertedero son solo con cita previa, pero la eliminación normalmente se permite entre las 7:30am y las 5:30pm de lunes a jueves. El vertedero puede operar fuera de las

horas de operación programadas para acomodar la preparación del sitio, las condiciones climáticas adversas, la cobertura, los proyectos especiales, la construcción, la operación/proyectos internos, el mantenimiento, el monitoreo y otras circunstancias especiales.

3. Descripción de la instalación:

a. Proceso general: El vertedero recibirá residuos de asbestos de los transportistas comerciales y del público. Los residuos de amianto se colocarán en fases/celdas diseñadas de acuerdo con las Normas de Residuos Sólidos. Al final de cada jornada laboral, la cara de trabajo (residuos) se cubrirá con al menos 6" de suelo o una cubierta alternativa aprobada por NMED.

b. Ubicación: El sitio de eliminación del vertedero se encuentra aproximadamente a catorce millas al sureste de Mountainair, NM en la carretera 55, Condado de Torrance, Nuevo México. En el marcador de milla 49, gire hacia el este 1 milla en County Road BO 29.

c. Tamaño: El área dentro de los límites de la instalación es de 320 acres con 24.5 acres permitidos para la eliminación de desechos.

d. Cantidades y tasa de residuos sólidos: Se prevé que el vertedero pueda recibir un promedio de 35 cu. yds de residuos sólidos por día (aproximadamente 10,000 cu. yds./año) y puede recibir más o menos residuos de amianto dependiendo de las condiciones del mercado. La cantidad y la tarifa pueden aumentar en el futuro a medida que aumenta la demanda en respuesta al aumento de la población y con proyectos de construcción regionales.

e. Tipos de residuos: 150,000 cu. yds. De residuos permitidos para recepción en el vertedero y cantidades aproximadas de 10,000 cúbicoyds. De los residuos de amianto recibidos cada año.

4. Origen de los residuos: Se anticipa que la mayoría de los desechos recibidos se originarán principalmente en el condado de Bernalillo ya en todo Nuevo México y el oeste de Texas, pero pueden provenir de áreas fuera de estos condados.

5. Comentarios: Las preguntas o comentarios relacionados con la documentación de la revisión del permiso provisional deben dirigirse a Adrian Montano a la dirección en la Sección 1, y a:

Erica L. Gordon
Oficina de Residuos Sólidos
Apartado de correos 5469
Santa Fe, Nuevo México 87502
(505) 670-2018

La documentación presentada por el Permisionario para la revisión provisional del permiso puede ser revisada en: Special Waste Disposal, Inc., 91 Liberty Valley Road, Mountainair, Nuevo México 87036.
Horario comercial: Solo con cita previa, pero generalmente de 7:30am a 5:30pm de lunes a jueves.
Contacto: Ray Hendricks,
Teléfono de contacto: (505) 544-6333.
NMED Solid Waste Bureau, 1190 St. Francis Drive, Harold Runnels Building, Suite N2150, Santa Fe, NM. Horario de atención: 8am a 5pm de lunes a viernes.
Contacto: Erica L. Gordon. Teléfono de contacto: (505) 670-2018.

07/22/2022

7019 0700 0001 4973 3135

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Estancia, NM 87016

Certified Mail Fee \$4.00
\$0.00
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$0.00
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.60
\$
Total Postage and Fees \$4.60
\$

Sent To Delma E. Prather Rev. Trust
Street and Apt. No., or PO Box No.
P.O. Box 764
City, State, ZIP+4®
Estancia, NM 87016

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



7019 0700 0001 4973 3142

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Santa Fe, NM 87504

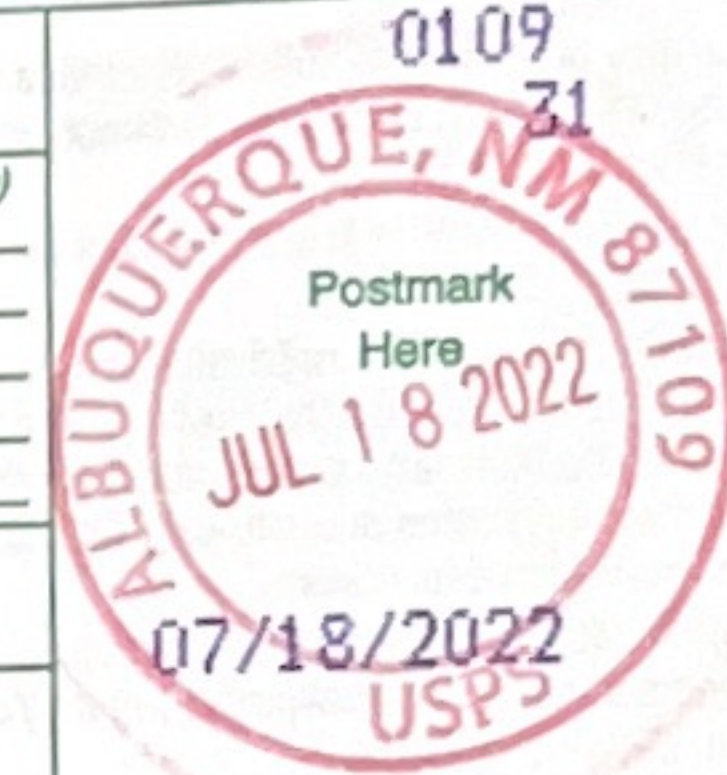
Certified Mail Fee \$4.00
\$0.00
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$0.00
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.60
\$
Total Postage and Fees \$4.60
\$

Sent To NM State Land Office
Street and Apt. No., or PO Box No.
P.O. Box 1148
City, State, ZIP+4®
Santa Fe, NM 87504

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



7019 0700 0001 4973 3166

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Encino, NM 88321

Certified Mail Fee \$4.00
\$0.00
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$0.00
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.60
\$
Total Postage and Fees \$4.60
\$

Sent To Village of Encino
Street and Apt. No., or PO Box No.
P.O. Box 163
City, State, ZIP+4®
Encino, NM 88321-0163

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



7019 0700 0001 4973 3159

U.S. Postal Service™ CERTIFIED MAIL® RECEIPT Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Estancia, NM 87016

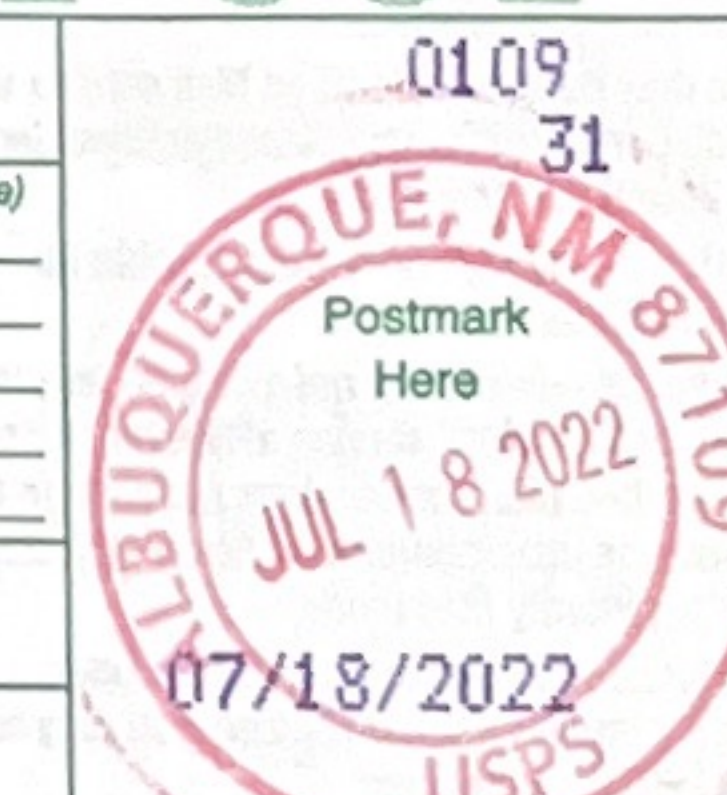
Certified Mail Fee \$4.00
\$0.00
Extra Services & Fees (check box, add fee as appropriate)
☐ Return Receipt (hardcopy) \$0.00
☐ Return Receipt (electronic) \$0.00
☐ Certified Mail Restricted Delivery \$0.00
☐ Adult Signature Required \$0.00
☐ Adult Signature Restricted Delivery \$0.00

Postage \$0.60
\$
Total Postage and Fees \$4.60
\$

Sent To Torrance County Manager
Street and Apt. No., or PO Box No.
P.O. Box 48
City, State, ZIP+4®
Estancia, NM 87016

PS Form 3800, April 2015 PSN 7530-02-000-9047

See Reverse for Instructions



July 18, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3135 - Corrected

Dear Delma E. Prather Rev Trust:

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is July 25, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude - 105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

The proposed **construction** consists of a Crushing Plant including generator engines, heaters, bins, bin feeders, conveyors, bin loading, truck loading and hauling, crushers, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

| Pollutant: | Pounds per hour | Tons per year |
|--|-----------------|---------------|
| PM ₁₀ | 3.84 pph | 15.78 tpy |
| PM _{2.5} | 1.05 pph | 4.51 tpy |
| Sulfur Dioxide (SO ₂) | 1.71 pph | 7.48 tpy |
| Nitrogen Oxides (NO _x) | 11.98 pph | 52.46 tpy |
| Carbon Monoxide (CO) | 12.67 pph | 55.48 tpy |
| Volatile Organic Compounds (VOC) | 2.73 pph | 11.96 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 0.01 pph | 0.05 tpy |
| Toxic Air Pollutant (TAP) | 0.01 pph | 0.05 tpy |
| Green House Gas Emissions as Total CO ₂ e | n/a | 5,074.0 tpy |

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m.. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

Atención

Este es un aviso de la oficina de Calidad del Aire del Departamento del Medio Ambiente de Nuevo México, acerca de las emisiones producidas por un establecimiento en esta área. Si usted desea información en español, por favor comuníquese con esa oficina al teléfono 505-476-5557.

Notice of Non-Discrimination

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, or if you believe that you have been discriminated against with respect to a NMED program or activity, you may contact: Kristine Yurdin, Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. You may also visit our website at <https://www.env.nm.gov/non-employee-discrimination-complaint-page/> to learn how and where to file a complaint of discrimination.

July 18, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3142 - Corrected

Dear New Mexico State Land Office:

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is July 25, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude - 105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

The proposed **construction** consists of a Crushing Plant including generator engines, heaters, bins, bin feeders, conveyors, bin loading, truck loading and hauling, crushers, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

| Pollutant: | Pounds per hour | Tons per year |
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| Carbon Monoxide (CO) | 12.67 pph | 55.48 tpy |
| Volatile Organic Compounds (VOC) | 2.73 pph | 11.96 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 0.01 pph | 0.05 tpy |
| Toxic Air Pollutant (TAP) | 0.01 pph | 0.05 tpy |
| Green House Gas Emissions as Total CO ₂ e | n/a | 5,074.0 tpy |

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m.. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

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July 18, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3159 - Corrected

Dear Torrance County Manager:

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is July 25, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude - 105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

The proposed **construction** consists of a Crushing Plant including generator engines, heaters, bins, bin feeders, conveyors, bin loading, truck loading and hauling, crushers, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

| Pollutant: | Pounds per hour | Tons per year |
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| Nitrogen Oxides (NO _x) | 11.98 pph | 52.46 tpy |
| Carbon Monoxide (CO) | 12.67 pph | 55.48 tpy |
| Volatile Organic Compounds (VOC) | 2.73 pph | 11.96 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 0.01 pph | 0.05 tpy |
| Toxic Air Pollutant (TAP) | 0.01 pph | 0.05 tpy |
| Green House Gas Emissions as Total CO ₂ e | n/a | 5,074.0 tpy |

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m.. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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July 18, 2022

CERTIFIED MAIL 7019 0700 0001 4973 3166 - Corrected

Dear Village of Encino:

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is July 25, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude - 105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

The proposed **construction** consists of a Crushing Plant including generator engines, heaters, bins, bin feeders, conveyors, bin loading, truck loading and hauling, crushers, storage piles and screens.

The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

| Pollutant: | Pounds per hour | Tons per year |
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| PM ₁₀ | 3.84 pph | 15.78 tpy |
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| Sulfur Dioxide (SO ₂) | 1.71 pph | 7.48 tpy |
| Nitrogen Oxides (NO _x) | 11.98 pph | 52.46 tpy |
| Carbon Monoxide (CO) | 12.67 pph | 55.48 tpy |
| Volatile Organic Compounds (VOC) | 2.73 pph | 11.96 tpy |
| Total sum of all Hazardous Air Pollutants (HAPs) | 0.01 pph | 0.05 tpy |
| Toxic Air Pollutant (TAP) | 0.01 pph | 0.05 tpy |
| Green House Gas Emissions as Total CO ₂ e | n/a | 5,074.0 tpy |

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m.. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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NOTICE OF AIR QUALITY PERMIT APPLICATION

Fisher Sand & Gravel NM Inc. announces its application to the New Mexico Environment Department for an air quality permit for the construction of its crushing facility. The expected date of application submittal to the Air Quality Bureau is July 25, 2022.

The exact location for the proposed facility known as, Crusher Plant, will be at latitude 34 deg, 39 min, 57.8 sec and longitude - 105 deg, 36 min, 3.51 sec. The approximate location of this facility is 8 miles northwest of Encino in Torrance county.

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The estimated maximum quantities of any regulated air contaminants will be as follows in pound per hour (pph) and tons per year (tpy). These reported emissions could change slightly during the course of the Department's review:

| Pollutant: | Pounds per hour | Tons per year |
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| Total sum of all Hazardous Air Pollutants (HAPs) | 0.01 pph | 0.05 tpy |
| Toxic Air Pollutant (TAP) | 0.01 pph | 0.05 tpy |
| Green House Gas Emissions as Total CO ₂ e | n/a | 5,074.0 tpy |

The standard and maximum operating schedules of the facility will be from 8 a.m. to 8 a.m.. 7 days a week and a maximum of 52 weeks per year (24 hours per day operation).

The owner and/or operator of the Facility is: Fisher Sand & Gravel NM Inc.; 30A Frontage Road East, Placitas, NM 87043.

If you have any comments about the construction or operation of this facility, and you want your comments to be made as part of the permit review process, you must submit your comments in writing to this address: Permit Programs Manager; New Mexico Environment Department; Air Quality Bureau; 525 Camino de los Marquez, Suite 1; Santa Fe, New Mexico; 87505-1816; (505) 476-4300; 1 800 224-7009; https://www.env.nm.gov/aqb/permit/aqb_draft_permits.html. Other comments and questions may be submitted verbally.

With your comments, please refer to the company name and facility name, or send a copy of this notice along with your comments. This information is necessary since the Department may have not yet received the permit application. Please include a legible return mailing address. Once the Department has completed its preliminary review of the application and its air quality impacts, the Department's notice will be published in the legal section of a newspaper circulated near the facility location.

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From: mschluep@alliantenv.com
To: ["info@kxnm.org"](mailto:info@kxnm.org)
Cc: ["mschluep@alliantenv.com"](mailto:mschluep@alliantenv.com)
Subject: Public Service Announcement
Date: Tuesday, June 28, 2022 10:43:00 AM

Dear KXNM 88.7 Radio:

Fisher Sand & Gravel NM Inc. kindly requests, according to New Mexico air quality regulations, that KXNM 88.7 FM Radio make the following public services announcement:

"Fisher Sand & Gravel NM Inc. is applying for an NSR permit for the HMA & Crusher Plant located at latitude: 34 degrees, 39 minutes, 57.8 seconds and longitude: -105 degrees, 36 minutes, 3.51 seconds. The plant is approximately 8 miles northwest of Encino, NM. The proposed construction consists of a Crushing Plant including generator engines, feeders, conveyors, truck loading and hauling, crushers, storage piles and screens. Public notice of this change is being posted at the facility entrance, the USPS in Encino, the Encino Village Hall, and also at the Firehouse Mercantile in Encino.

If you have any questions regarding this application, please contact the New Mexico Environmental Department, Air Quality Bureau located at 525 Camino de los Marquez, Suite 1, Santa Fe, New Mexico 87505-1816; (505) 476-4300; 1-800-224-7009."

Thank you,

On behalf of Fisher Sand & Gravel NM Inc.

Martin R. Schluep
Alliant Environmental, LLC
7804 Pan American Fwy. NE, Suite 5
Albuquerque, NM 87109
505.205.4819
www.alliantenv.com

PROPERTY # 1 074 032 309 326 000000TWP 5 RGE 12 ---SEC 24 N OF RR (401.81); TWP 5 RGE 13 SEC 5 ALL (643.25) SEC 7 ALL (635.58) SEC 8 ALL (640) SEC 9 S2 AND NE4 (480); SEC 10 SW4 LESS 38 AC HWY 60 (122); SEC 17 ALL LESS 5 AC (635); & INCLUDING NW4 PARCEL 500FT WIDE, 1/2 MILE LONG, SEC 19 N OF RR (98); TWP6 RGE 12 SEC 25 E2 (320); TWP 6 RGE 13 SEC 19 ALL (640); SEC 20 W2 (320); SEC 29 W2 (320) SEC 30 ALL (639.60) SEC 31 ALL (635.85) APPROX. 7,771.09 AC. LESS COMMERCIAL ACCOUNT ONLY FOR (29) TURBINES ON (29) 1 ACRE SITES FOR BILLING PURPOSES ONLY 24681 US HIGHWAY 60



2021 TAX BILL
TORRANCE COUNTY TREASURER
205 Ninth Street S - P.O. Box 318
Estancia, NM 87016-0318
(505) 544-4800
www.torrancecountynm.org
Office Hours: Monday through Thursday 7:30-4:30
Closed Fridays

MCLAUGHLIN RANCH LLC
PO BOX 53
ENCINO NM 88321

| | |
|--------------|--------------|
| ACCOUNT NO.: | 0018828 |
| BILL NO.: | 2021-0018798 |

16OU ◀ Net Taxable Values Will Be Allocated to Governmental Units in School District.

| DISTRIBUTION | TAX RATES | AMOUNT DUE | NON-RESIDENTIAL | FULL VALUE | TAXABLE VALUE |
|----------------------|-----------|------------|--|------------|---------------|
| STATE -RES | 1.36 | 26.12 | | | |
| COUNTY -RES | 12.07 | 231.90 | | | |
| SCHOOL -RES | 5.84 | 112.18 | | | |
| RESIDENTIAL | 19.28 | 370.20 | | | |
| EAST TORRANCE | 1.00 | 21.21 | | | |
| | | | NON RESIDENTIAL TOTAL | | 0 |
| | | | RESIDENTIAL | FULL VALUE | TAXABLE VALUE |
| | | | LAND | 42,885 | 14,295 |
| | | | IMPROVEMENT | 20,736 | 6,912 |
| | | | EXEMPTIONS | 0 | 2,000 |
| | | | Tax Rates Are Expressed in Dollars per Thousand. Taxable Value is 33 1/3% of Full Value. | | |
| TOTAL 2021 TAX DUE ▶ | | 391.41 | TOTAL NET VALUE OF RESIDENTIAL AND NON-RESIDENTIAL | | 19,207 |

PRIOR TAXES, IF ANY
MUST BE PAID BEFORE
ACCEPTING CURRENT
YEAR PAYMENT.

| YEAR | BILL NO. | TAX | INTEREST | PENALTY | AMOUNT DUE |
|------|----------|-----|----------|---------|------------|
| | | | | | |

PLEASE RETAIN THIS PORTION FOR YOUR RECORDS. See reverse side for instruction regarding interest and penalty. 11-23-21_v4

2nd
HALF

RETURN THIS STUB WITH
2ND HALF PAYMENT

PRINT THIS ACCOUNT
NO. AND BILL NO.
ON YOUR CHECK

| | |
|--------------|--------------|
| ACCOUNT NO.: | 0018828 |
| BILL NO.: | 2021-0018798 |

BY NEW MEXICO STATE STATUTE THIS BILL IS DUE BY **APRIL 10, 2022**;
HOWEVER, YOU ARE ALLOWED A 30 DAY GRACE PERIOD. TO AVOID INTEREST AND PENALTY CHARGES,
DETACH THIS COUPON AND REMIT WITH PAYMENT BY **MAY 10, 2022**.

PLEASE MAKE CHECKS PAYABLE TO:
TORRANCE COUNTY TREASURER
P.O. Box 318 • Estancia, NM 87016-0318

☐ IF YOUR ADDRESS HAS CHANGED, PLEASE CHECK THIS BOX AND FILL OUT ADDRESS CHANGE ON THE BACK OF THIS COUPON.

| | | |
|-------------------------|--------------|--------|
| 2 nd HALF | MAY 10, 2022 | 195.70 |
|-------------------------|--------------|--------|

If you have a mortgage on the property described above, please contact your mortgage company before paying this tax bill. This will avoid duplicate payments on your account.

12596*53**G50**1.2715**1/4*****AUTOALL FOR AADC 798
MCLAUGHLIN RANCH LLC
PO BOX 53
ENCINO NM 88321



1st
HALF OR
FULL
YEAR

RETURN THIS STUB WITH
1ST HALF OR FULL YEAR PAYMENT

PRINT THIS ACCOUNT
NO. AND BILL NO.
ON YOUR CHECK

| | |
|--------------|--------------|
| ACCOUNT NO.: | 0018828 |
| BILL NO.: | 2021-0018798 |

BY NEW MEXICO STATE STATUTE THIS BILL IS DUE BY **JANUARY 7, 2022**;
HOWEVER, YOU ARE ALLOWED A 30 DAY GRACE PERIOD. TO AVOID INTEREST AND PENALTY CHARGES,
DETACH THIS COUPON AND REMIT WITH PAYMENT BY **FEBRUARY 7, 2022**.

PLEASE MAKE CHECKS PAYABLE TO:
TORRANCE COUNTY TREASURER
P.O. Box 318 • Estancia, NM 87016-0318

☐ IF YOUR ADDRESS HAS CHANGED, PLEASE CHECK THIS BOX AND FILL OUT ADDRESS CHANGE ON THE BACK OF THIS COUPON.

| | | |
|-------------------------|-------------|--------|
| 1 st HALF | FEB 7, 2022 | 195.71 |
|-------------------------|-------------|--------|

| | | |
|--------------|-------------|----------|
| FULL YEAR | FEB 7, 2022 | \$391.41 |
|--------------|-------------|----------|

If you have a mortgage on the property described above, please contact your mortgage company before paying this tax bill. This will avoid duplicate payments on your account.

MCLAUGHLIN RANCH LLC
PO BOX 53
ENCINO NM 88321



Section 10

Written Description of the Routine Operations of the Facility

A written description of the routine operations of the facility. Include a description of how each piece of equipment will be operated, how controls will be used, and the fate of both the products and waste generated. For modifications and/or revisions, explain how the changes will affect the existing process. In a separate paragraph describe the major process bottlenecks that limit production. The purpose of this description is to provide sufficient information about plant operations for the permit writer to determine appropriate emission sources.

The Crusher Plant will consist of a feeder, screen(s), crusher(s), multiple conveyors, and diesel-fired generator engines to power the crusher plant. The crusher plant will be permitted to operate with a production feeder and Jaw crusher limit of 400 tons per hour and crushing and screening limited to 200 tons per hours. The requested annual hours of operation are 8,760 hours per year.

Haul truck traffic (haul road emissions) will be controlled with base course and watering.

No SSM emissions are proposed or submitted for this facility. For equipment at the Plant, Fisher will follow normal industry practices in minimizing emissions during start-up, shutdown, and maintenance to not exceed the maximum hourly or annual emission rates submitted in Table 2-E. All control equipment and methods will be functioning correctly prior to processing.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC

Sources applying for a construction permit, PSD permit, or operating permit shall evaluate surrounding and/or associated sources (including those sources directly connected to this source for business reasons) and complete this section. Responses to the following questions shall be consistent with the Air Quality Bureau's permitting guidance, Single Source Determination Guidance, which may be found on the Applications Page in the Permitting Section of the Air Quality Bureau website.

Typically, buildings, structures, installations, or facilities that have the same SIC code, that are under common ownership or control, and that are contiguous or adjacent constitute a single stationary source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes. Submission of your analysis of these factors in support of the responses below is optional, unless requested by NMED.

A. Identify the emission sources evaluated in this section (list and describe):

Crusher Plant. See Form UA2 for a list of equipment.

B. Apply the 3 criteria for determining a single source:

SIC Code: Surrounding or associated sources belong to the same 2-digit industrial grouping (2-digit SIC code) as this facility, OR surrounding or associated sources that belong to different 2-digit SIC codes are support facilities for this source.

☒ Yes ☐ No

Common Ownership or Control: Surrounding or associated sources are under common ownership or control as this source.

☒ Yes ☐ No

Contiguous or Adjacent: Surrounding or associated sources are contiguous or adjacent with this source.

☒ Yes ☐ No

C. Make a determination:

☒ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes. If in "A" above you evaluated only the source that is the subject of this application, all "YES" boxes should be checked. If in "A" above you evaluated other sources as well, you must check **AT LEAST ONE** of the boxes "NO" to conclude that the source, as described in the application, is the entire source for 20.2.70, 20.2.72, 20.2.73, and 20.2.74 NMAC applicability purposes.

☐ The source, as described in this application, **does not** constitute the entire source for 20.2.70, 20.2.72, 20.2.73, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A

PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

A PSD applicability determination for all sources. For sources applying for a significant permit revision, apply the applicable requirements of 20.2.74.AG and 20.2.74.200 NMAC and to determine whether this facility is a major or minor PSD source, and whether this modification is a major or a minor PSD modification. It may be helpful to refer to the procedures for Determining the Net Emissions Change at a Source as specified by Table A-5 (Page A.45) of the EPA New Source Review Workshop Manual to determine if the revision is subject to PSD review.

A. This facility is:

- ☒ a minor PSD source before and after this modification (if so, delete C and D below).
- ☐ a major PSD source before this modification. This modification will make this a PSD minor source.
- ☐ an existing PSD Major Source that has never had a major modification requiring a BACT analysis.
- ☐ an existing PSD Major Source that has had a major modification requiring a BACT analysis
- ☐ a new PSD Major Source after this modification.

B. This facility **is not** one of the listed 20.2.74.501 Table I – PSD Source Categories. The “project” emissions for this application are **not significant as they are below PSD significant emission rates listed in Table 2 of 20.2.74.502 NMAC**. The “project” emissions listed below only result from equipment and processes described in this permit application. This project is being completed to permit the Crusher Plant under a NSR permit. This project does not result in “de-bottlenecking”, or other associated emissions resulting in higher emissions as are currently permitted. The project emissions for this project are as follows [see Table 2 in 20.2.74.502 NMAC for a complete list of significance levels]

- a. NOx: 52.46 TPY
- b. CO: 55.48 TPY
- c. VOC: 11.96 TPY
- d. SOx: 7.48 TPY
- e. PM: 15.78 TPY
- f. PM10: 15.78 TPY
- g. PM2.5: 4.51 TPY
- h. Fluorides: **N/A**
- i. Lead: **N/A**
- j. Sulfur compounds (listed in Table 2): **N/A**
- k. GHG (CO2e): 5074.0 TPY

C. Netting **is not required (project is not significant)**.

D. BACT is **not required for this application as it is for a minor source permit**.

E. If this is an existing PSD major source, or any facility with emissions greater than 250 TPY (or 100 TPY for 20.2.74.501 Table 1 – PSD Source Categories), determine whether any permit modifications are related, or could be considered a single project with this action, and provide an explanation for your determination whether a PSD modification is triggered.

Not applicable as this site is not an existing PSD major source and does not have emissions greater than 250 TPY.

Section 13

Determination of State & Federal Air Quality Regulations

This section lists each state and federal air quality regulation that may apply to your facility and/or equipment that are stationary sources of regulated air pollutants.

Not all state and federal air quality regulations are included in this list. Go to the Code of Federal Regulations (CFR) or to the Air Quality Bureau's regulation page to see the full set of air quality regulations.

Required Information for Specific Equipment:

For regulations that apply to specific source types, in the 'Justification' column **provide any information needed to determine if the regulation does or does not apply.** For example, to determine if emissions standards at 40 CFR 60, Subpart IIII apply to your three identical stationary engines, we need to know the construction date as defined in that regulation; the manufacturer date; the date of reconstruction or modification, if any; if they are or are not fire pump engines; if they are or are not emergency engines as defined in that regulation; their site ratings; and the cylinder displacement.

Required Information for Regulations that Apply to the Entire Facility:

See instructions in the 'Justification' column for the information that is needed to determine if an 'Entire Facility' type of regulation applies (e.g. 20.2.70 or 20.2.73 NMAC).

Regulatory Citations for Regulations That Do Not, but Could Apply:

If there is a state or federal air quality regulation that does not apply, but you have a piece of equipment in a source category for which a regulation has been promulgated, you must **provide the low level regulatory citation showing why your piece of equipment is not subject to or exempt from the regulation.** For example if you have a stationary internal combustion engine that is not subject to 40 CFR 63, Subpart ZZZZ because it is an existing 2 stroke lean burn stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, your citation would be 40 CFR 63.6590(b)(3)(i). **We don't want a discussion of every non-applicable regulation, but if it is possible a regulation could apply, explain why it does not.** For example, if your facility is a power plant, you do not need to include a citation to show that 40 CFR 60, Subpart OOO does not apply to your non-existent rock crusher.

Regulatory Citations for Emission Standards:

For each unit that is subject to an emission standard in a source specific regulation, such as 40 CFR 60, Subpart OOO or 40 CFR 63, Subpart HH, include the low level regulatory citation of that emission standard. Emission standards can be numerical emission limits, work practice standards, or other requirements such as maintenance. **Here are examples:** a glycol dehydrator is subject to the general standards at 63.764C(1)(i) through (iii); an engine is subject to 63.6601, Tables 2a and 2b; a crusher is subject to 60.672(b), Table 3 and all transfer points are subject to 60.672(e)(1)

Federally Enforceable Conditions:

All federal regulations are federally enforceable. All Air Quality Bureau State regulations are federally enforceable except for the following: affirmative defense portions at 20.2.7.6.B, 20.2.7.110(B)(15), 20.2.7.11 through 20.2.7.113, 20.2.7.115, and 20.2.7.116; 20.2.37; 20.2.42; 20.2.43; 20.2.62; 20.2.63; 20.2.86; 20.2.89; and 20.2.90 NMAC. Federally enforceable means that EPA can enforce the regulation as well as the Air Quality Bureau and federally enforceable regulations can count toward determining a facility's potential to emit (PTE) for the Title V, PSD, and nonattainment permit regulations.

INCLUDE ANY OTHER INFORMATION NEEDED TO COMPLETE AN APPLICABILITY DETERMINATION OR THAT IS RELEVANT TO YOUR FACILITY'S NOTICE OF INTENT OR PERMIT.

EPA Applicability Determination Index for 40 CFR 60, 61, 63, etc: <http://cfpub.epa.gov/adi/>

Table for STATE REGULATIONS:

| <u>STATE REGU- LATIONS</u> CITATION | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.) |
|--|--|-----------------------------------|------------------------|--|
| 20.2.1 NMAC | General Provisions | Yes | Facility | General Provisions apply to Notice of Intent, Construction, and Title V permit applications. |
| 20.2.3 NMAC | Ambient Air Quality Standards NMAAQs | Yes | Facility | 20.2.3 NMAC is a State Implementation Plan (SIP) approved regulation that limits the maximum allowable concentration of, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. The TSP NM ambient air quality standard was repealed by the EIB effective November 30, 2018. Air dispersion modeling was performed for this project to show compliance with the NMAAQs. See form UA4 for a discussion and the results of the air dispersion modeling. |
| 20.2.7 NMAC | Excess Emissions | | Facility | This site is subject to the requirements of this regulation and will comply with any applicable requirements under 20.2.7 NMAC. |
| 20.2.23 NMAC | Fugitive Dust Control | No for permitted facilities | N/A | Sources exempt from 20.2.23 NMAC are activities and facilities subject to a permit issued pursuant to the NM Air Quality Control Act, the Mining Act, or the Surface Mining Act (20.2.23.108.B NMAC). |
| 20.2.33 NMAC | Gas Burning Equipment - Nitrogen Dioxide | No | N/A | Not applicable as this site does not include gas burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. |
| 20.2.34 NMAC | Oil Burning Equipment: NO ₂ | No | N/A | This facility does not have oil burning equipment having a heat input of greater than 1,000,000 million British Thermal Units per year per unit. |
| 20.2.35 NMAC | Natural Gas Processing Plant – Sulfur | No | N/A | This facility is not a natural gas processing plant. |
| 20.2.37 and 20.2.36 NMAC | Petroleum Processing Facilities and Petroleum Refineries | N/A | N/A | These regulations were repealed by the Environmental Improvement Board. If you had equipment subject to 20.2.37 NMAC before the repeal, your combustion emission sources are now subject to 20.2.61 NMAC. |
| <u>20.2.38</u> NMAC | Hydrocarbon Storage Facility | No | N/A | This site does not store hydrocarbons containing hydrogen sulfide. |
| <u>20.2.39</u> NMAC | Sulfur Recovery Plant - Sulfur | No | N/A | This site is not a sulfur recovery plant. |
| 20.2.61.109 NMAC | Smoke & Visible Emissions | Yes | 38-40 | This regulation that limits opacity to 20% applies to Stationary Combustion Equipment, such as engines, boilers, heaters, and flares. The generator engines included in this application are considered Stationary Combustion Equipment and are subject to this regulation. |
| 20.2.70 NMAC | Operating Permits | No | N/A | This source is not a major source as defined by this rule. |
| 20.2.71 NMAC | Operating Permit Fees | No | N/A | This source is not subject to 20.2.70 NMAC; therefore, it is not subject to 20.2.71 NMAC. |
| 20.2.72 NMAC | Construction Permits | Yes | Facility | This application is being submitted to authorize the plant under 20.2.72.200 NMAC. |
| 20.2.73 NMAC | NOI & Emissions Inventory Requirements | No | N/A | Not applicable as this site is not subject to NOI requirements under 20.2.73.200 NMAC and/or Emissions Inventory Reporting under 20.2.73.300 NMAC. Note: Emissions Inventory Reporting could be required per 20.2.73.300 NMAC if your facility is subject to 20.2.73.200, 20.2.72, or emits more than 1 ton of lead or 10 tons of TSP, PM ₁₀ , PM _{2.5} , SO _x , NO _x CO, or VOCs in any calendar year. |

| <u>STATE REGU- LATIONS</u> CITATION | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: (You may delete instructions or statements that do not apply in the justification column to shorten the document.) |
|--|---|-----------------------------------|----------------------------------|---|
| 20.2.74 NMAC | Permits – Prevention of Significant Deterioration (PSD) | No | N/A | Not applicable as this site is not PSD major as defined by this rule. |
| 20.2.75 NMAC | Construction Permit Fees | Yes | Facility | This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 NMAC. |
| 20.2.77 NMAC | New Source Performance | Yes | Units subject to 40 CFR 60 | As there is equipment onsite applicable to the requirements of 40 CFR Part 60, 20.2.77 NMAC also applies. |
| 20.2.78 NMAC | Emission Standards for HAPS | No | N/A | Not applicable as there is no equipment subject to the requirements of 40 CFR Part 61. |
| 20.2.79 NMAC | Permits – Nonattainment Areas | No | N/A | Not applicable because the site is not located within a nonattainment area. |
| 20.2.80 NMAC | Stack Heights | No | N/A | Does not apply for this source. |
| 20.2.82 NMAC | MACT Standards for source categories of HAPS | Yes | Units Subject to 40 CFR 63 | This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63. |

Table for FEDERAL REGULATIONS:

| <u>FEDERAL REGU- LATIONS</u> CITATION | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: |
|--|---|--------------------------------|----------------------------------|--|
| 40 CFR 50 | NAAQS | Yes | Facility | The requirement to comply with the National Ambient Air Quality Standards applies to all sources operating within the State of New Mexico. |
| NSPS 40 CFR 60, Subpart A | General Provisions | Yes | Units subject to 40 CFR 60 | Applies if any other Subpart in 40 CFR 60 applies. |
| NSPS 40 CFR60.40a, Subpart Da | Subpart Da, Performance Standards for Electric Utility Steam Generating Units | No | N/A | Not applicable as there are no electric steam generating units onsite. |
| NSPS 40 CFR60.40b Subpart Db | Electric Utility Steam Generating Units | No | N/A | Not applicable as there are no electric steam generating units onsite. |

| <u>FEDERAL REGU- LATIONS CITATION</u> | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: |
|---|---|---|--------------------------------|---|
| 40 CFR 60.40c, Subpart Dc | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units | No | N/A | Not applicable as there are no steam generating units onsite. |
| NSPS 40 CFR 60, Subpart Ka | Standards of Performance for Storage Vessels for Petroleum Liquids for which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984 | No | N/A | The tanks at this site have storage capacities less than the applicable volumes listed under this subpart and/or do not store petroleum liquids. |
| NSPS 40 CFR 60, Subpart Kb | Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984 | No | N/A | The tanks at this site have storage capacities less than the applicable volumes listed under this subpart and/or do not store volatile organic liquids. |
| NSPS 40 CFR 60, Subpart I | Standards of Performance for Hot Mix Asphalt Facilities | No | N/A | Any affected facility that commences construction or modification after June 11, 1973, is subject to the requirements of this subpart. An affected facility is each hot mix asphalt facility. For the purpose of this subpart, a hot mix asphalt facility is comprised only of any combination of the following: dryers; systems for screening, handling, storing, and weighing hot aggregate; systems for loading, transferring, and storing mineral filler, systems for mixing hot mix asphalt; and the loading, transfer, and storage systems associated with emission control systems. As this application does not include a hot mix asphalt plant, this regulation does not apply. |
| NSPS 40 CFR 60.330 Subpart GG | Stationary Gas Turbines | No | N/A | There are no turbines at the site. |
| NSPS 40 CFR 60, Subpart KKK | Leaks of VOC from Onshore Gas Plants | No | N/A | This site is not a gas plant. |

| <u>FEDERAL REGU- LATIONS</u> CITATION | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: |
|--|---|--------------------------------|------------------------|---|
| NSPS 40 CFR Part 60 Subpart LLL | Standards of Performance for Onshore Natural Gas Processing: SO ₂ Emissions | No | N/A | The facility is not a natural gas processing plant. |
| NSPS 40 CFR Part 60 Subpart OOO | Standards of Performance for Nonmetallic Mineral Processing Plants | Yes | 6-37 | This regulation is applicable to nonmetallic mineral processing plants, including 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 located at HMA 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. Fisher will comply with any applicable requirements of Subpart OOO. |
| NSPS 40 CFR Part 60 Subpart OOOO | Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution for which construction, modification or reconstruction commenced after August 23, 2011 and before September 18, 2015 | No | N/A | This site is not an oil or natural gas production, transmission, and distribution site. |
| NSPS 40 CFR Part 60 Subpart OOOOa | Standards of Performance for Crude Oil and Natural Gas Facilities for which Construction, Modification or Reconstruction Commenced After September 18, 2015 | No | N/A | This site is not an oil or natural gas facility. |
| NSPS 40 CFR 60 Subpart IIII | Standards of performance for Stationary Compression Ignition Internal Combustion Engines | Yes | 38, 39, 40 | The listed engines are required to comply with the requirements of Subpart IIII as the engines were manufactured after April 1, 2006. |
| NSPS 40 CFR Part 60 Subpart JJJJ | Standards of Performance for Stationary Spark Ignition Internal Combustion Engines | No | N/A | There are no spark ignition engines onsite. |

| <u>FEDERAL REGU- LATIONS CITATION</u> | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: |
|---|--|---|----------------------------------|--|
| NSPS 40 CFR 60 Subpart TTTT | Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units | No | N/A | There are no electric generating units per Subpart TTTT onsite. |
| NSPS 40 CFR 60 Subpart UUUU | Emissions Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units | No | N/A | There are no electric utility units onsite. |
| NESHAP 40 CFR 61 Subpart A | General Provisions | No | Units Subject to 40 CFR 61 | Does not apply as no other Subpart in 40 CFR 61 applies. |
| NESHAP 40 CFR 61 Subpart E | National Emission Standards for Mercury | No | N/A | There are no sources which process mercury ore to recover mercury, use mercury chlor-alkali cells to produce chlorine gas and alkali metal hydroxide, and incinerate or dry wastewater treatment plant sludge. |
| NESHAP 40 CFR 61 Subpart V | National Emission Standards for Equipment Leaks (Fugitive Emission Sources) | No | N/A | <p>The provisions of this subpart apply to each of the following sources that are intended to operate in volatile hazardous air pollutant (VHAP) service: pumps, compressors, pressure relief devices, sampling connection systems, open-ended valves or lines, valves, connectors, surge control vessels, bottoms receivers, and control devices or systems required by this subpart. VHAP service means a piece of equipment either contains or contacts a fluid (liquid or gas) that is at least 10 percent by weight of VHAP.</p> <p>As this site does not have any equipment in VHAP service, this regulation does not apply.</p> |
| MACT 40 CFR 63, Subpart A | General Provisions | Yes | Units Subject to 40 CFR 63 | Applies if any other Subpart in 40 CFR 63 applies. |
| MACT 40 CFR 63.760 Subpart HH | Oil and Natural Gas Production Facilities | No | N/A | This site is not an oil and/or natural gas production facility. |
| MACT 40 CFR 63 Subpart HHH | | No | N/A | This site is not a natural gas transmission and storage facility. |
| MACT 40 CFR 63 Subpart DDDDD | National Emission Standards for Hazardous Air Pollutants for Major Industrial, Commercial, and Institutional Boilers & Process Heaters | No | N/A | This site is not a major source of HAP emissions; therefore, this regulation does not apply. |
| MACT 40 CFR 63 Subpart UUUUU | National Emission Standards for Hazardous Air Pollutants Coal & Oil Fire Electric Utility Steam Generating Unit | No | N/A | There are no electric generating units onsite. |

| <u>FEDERAL REGU- LATIONS CITATION</u> | Title | Applies? Enter Yes or No | Unit(s) or Facility | JUSTIFICATION: |
|---|--|---|--------------------------------|--|
| MACT 40 CFR 63 Subpart ZZZZ | National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT) | Yes | 38, 39, 40 | Subpart ZZZZ applies to all engines onsite. Any engines manufactured after April 1, 2006 will comply with NSPS Subpart IIII to comply with the requirements of Subpart ZZZZ, as stated under 40 CFR §63.6590(c)(1). |
| 40 CFR 64 | Compliance Assurance Monitoring | No | N/A | Not applicable as none of the emission units onsite are major in and of itself. |
| 40 CFR 68 | Chemical Accident Prevention | No | N/A | This facility does not have more than a threshold quantity of a regulated substance subject to this regulation. |
| Title IV – Acid Rain 40 CFR 72 | Acid Rain | No | N/A | This site does not meet the applicability requirements of 40 CFR 72.6. |
| Title IV – Acid Rain 40 CFR 73 | Sulfur Dioxide Allowance Emissions | No | N/A | This site does not meet the applicability requirements of 40 CFR 73.2. |
| Title IV-Acid Rain 40 CFR 75 | Continuous Emissions Monitoring | No | N/A | Does not apply as this site does not generates commercial electric power or electric power for sale. |
| Title IV – Acid Rain 40 CFR 76 | Acid Rain Nitrogen Oxides Emission Reduction Program | No | N/A | This site does not meet the applicability requirements of 40 CFR 76.1, it does not include any coal-fired utility units. |
| Title VI – 40 CFR 82 | Protection of Stratospheric Ozone | No | N/A | Not Applicable –facility does not “service”, “maintain” or “repair” class I or class II appliances nor “disposes” of the appliances. Note: Disposal definition in 82.152: Disposal means the process leading to and including: (1) The discharge, deposit, dumping or placing of any discarded appliance into or on any land or water; (2) The disassembly of any appliance for discharge, deposit, dumping or placing of its discarded component parts into or on any land or water; or (3) The disassembly of any appliance for reuse of its component parts. “Major maintenance, service, or repair means” any maintenance, service, or repair that involves the removal of any or all of the following appliance components: compressor, condenser, evaporator, or auxiliary heat exchange coil; or any maintenance, service, or repair that involves uncovering an opening of more than four (4) square inches of “flow area” for more than 15 minutes. |

Section 14

Operational Plan to Mitigate Emissions

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

-
- ☐ **Title V Sources** (20.2.70 NMAC): By checking this box and certifying this application the permittee certifies that it has developed an Operational Plan to Mitigate Emissions During Startups, Shutdowns, and Emergencies defining the measures to be taken to mitigate source emissions during startups, shutdowns, and emergencies as required by 20.2.70.300.D.5(f) and (g) NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.
- ☒ **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) & **Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has developed an Operational Plan to Mitigate Source Emissions During Malfunction, Startup, or Shutdown defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown as required by 20.2.72.203.A.5 NMAC. This plan shall be kept on site to be made available to the Department upon request. This plan should not be submitted with this application.
- ☒ **Title V** (20.2.70 NMAC), **NSR** (20.2.72 NMAC), **PSD** (20.2.74 NMAC) & **Nonattainment** (20.2.79 NMAC) **Sources:** By checking this box and certifying this application the permittee certifies that it has established and implemented a Plan to Minimize Emissions During Routine or Predictable Startup, Shutdown, and Scheduled Maintenance through work practice standards and good air pollution control practices as required by 20.2.7.14.A and B NMAC. This plan shall be kept on site or at the nearest field office to be made available to the Department upon request. This plan should not be submitted with this application.
-

Fisher Sand & Gravel NM Inc. will maintain the plans listed above, as applicable.

Section 15

Alternative Operating Scenarios

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Alternative Operating Scenarios: Provide all information required by the department to define alternative operating scenarios. This includes process, material and product changes; facility emissions information; air pollution control equipment requirements; any applicable requirements; monitoring, recordkeeping, and reporting requirements; and compliance certification requirements. Please ensure applicable Tables in this application are clearly marked to show alternative operating scenario.

Construction Scenarios: When a permit is modified authorizing new construction to an existing facility, NMED includes a condition to clearly address which permit condition(s) (from the previous permit and the new permit) govern during the interval between the date of issuance of the modification permit and the completion of construction of the modification(s). There are many possible variables that need to be addressed such as: Is simultaneous operation of the old and new units permitted and, if so for example, for how long and under what restraints? In general, these types of requirements will be addressed in Section A100 of the permit, but additional requirements may be added elsewhere. Look in A100 of our NSR and/or TV permit template for sample language dealing with these requirements. Find these permit templates at: https://www.env.nm.gov/aqb/permit/aqb_pol.html. Compliance with standards must be maintained during construction, which should not usually be a problem unless simultaneous operation of old and new equipment is requested.

In this section, under the bolded title “Construction Scenarios”, specify any information necessary to write these conditions, such as: conservative-realistic estimated time for completion of construction of the various units, whether simultaneous operation of old and new units is being requested (and, if so, modeled), whether the old units will be removed or decommissioned, any PSD ramifications, any temporary limits requested during phased construction, whether any increase in emissions is being requested as SSM emissions or will instead be handled as a separate Construction Scenario (with corresponding emission limits and conditions, etc.

Fisher Sand & Gravel NM Inc. (Fisher) is proposing the possibility to move the plant within the plant site, as long as the determined minimum setback from the fenceline is kept. Fisher would like to be able to use the proposed plant in this application at the proposed plant site or at any relocation site.

Air dispersion modeling and relocation air dispersion modeling has been performed for the proposed crushing plant and are included in Form UA4. Emission calculations and tables are included in Form UA2 and Section 6 of this application.

In addition, Fisher Sand & Gravel NM Inc. would like to propose and be able to use the following alternative operating scenarios:

- Be allowed to replace the generator engines with like kind engines, a smaller engine, or a combination of two smaller engines without having to go through a minor or significant permit revision process as long as the maximum engine capacity is the same or lower and as long as total combustion emissions are the same or lower as presented in this application.
- Be allowed to replace screens, conveyors, and other operational equipment with like kind replacements with the same or lesser capacities as presented in this application.

Section 16

Air Dispersion Modeling

- 1) Minor Source Construction (20.2.72 NMAC) and Prevention of Significant Deterioration (PSD) (20.2.74 NMAC) ambient impact analysis (modeling): Provide an ambient impact analysis as required at 20.2.72.203.A(4) and/or 20.2.74.303 NMAC and as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines found on the Planning Section's modeling website. If air dispersion modeling has been waived for one or more pollutants, attach the AQB Modeling Section modeling waiver approval documentation.
- 2) SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions during routine or predictable startup, shutdown, or maintenance (SSM) using realistic worst case scenarios following guidance from the Air Quality Bureau's dispersion modeling section. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (http://www.env.nm.gov/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.
- 3) Title V (20.2.70 NMAC) ambient impact analysis: Title V applications must specify the construction permit and/or Title V Permit number(s) for which air quality dispersion modeling was last approved. Facilities that have only a Title V permit, such as landfills and air curtain incinerators, are subject to the same modeling required for preconstruction permits required by 20.2.72 and 20.2.74 NMAC.

| What is the purpose of this application? | Enter an X for each purpose that applies |
|---|--|
| New PSD major source or PSD major modification (20.2.74 NMAC). See #1 above. | |
| New Minor Source or significant permit revision under 20.2.72 NMAC (20.2.72.219.D NMAC). See #1 above. Note: Neither modeling nor a modeling waiver is required for VOC emissions. | X |
| Reporting existing pollutants that were not previously reported. | |
| Reporting existing pollutants where the ambient impact is being addressed for the first time. | |
| Title V application (new, renewal, significant, or minor modification. 20.2.70 NMAC). See #3 above. | |
| Relocation (20.2.72.202.B.4 or 72.202.D.3.c NMAC) | X |
| Minor Source Technical Permit Revision 20.2.72.219.B.1.d.vi NMAC for like-kind unit replacements. | |
| Other: i.e. SSM modeling. See #2 above. | |
| This application does not require modeling since this is a No Permit Required (NPR) application. | |
| This application does not require modeling since this is a Notice of Intent (NOI) application (20.2.73 NMAC). | |
| This application does not require modeling according to 20.2.70.7.E(11), 20.2.72.203.A(4), 20.2.74.303, 20.2.79.109.D NMAC and in accordance with the Air Quality Bureau's Modeling Guidelines. | |

Check each box that applies:

- ☐ See attached, approved modeling **waiver for all** pollutants from the facility.
- ☐ See attached, approved modeling **waiver for some** pollutants from the facility.
- ☒ Attached in Universal Application Form 4 (UA4) is a **modeling report for all** pollutants from the facility.
- ☐ Attached in UA4 is a **modeling report for some** pollutants from the facility.
- ☐ No modeling is required.

Universal Application 4

Air Dispersion Modeling Report

Refer to and complete Section 16 of the Universal Application form (UA3) to assist your determination as to whether modeling is required. If, after filling out Section 16, you are still unsure if modeling is required, e-mail the completed Section 16 to the AQB Modeling Manager for assistance in making this determination. If modeling is required, a modeling protocol would be submitted and approved prior to an application submittal. The protocol should be emailed to the modeling manager. A protocol is recommended but optional for minor sources and is required for new PSD sources or PSD major modifications. Fill out and submit this portion of the Universal Application form (UA4), the "Air Dispersion Modeling Report", only if air dispersion modeling is required for this application submittal. This serves as your modeling report submittal and should contain all the information needed to describe the modeling. No other modeling report or modeling protocol should be submitted with this permit application.

16-A: Identification

| | | |
|---|------------------------------|---|
| 1 | Name of facility: | Crusher Plant |
| 2 | Name of company: | Fisher Sand & Gravel NM, Inc. |
| 3 | Current Permit number: | N/A, initial permit application |
| 4 | Name of applicant's modeler: | Martin R. Schluep, Alliant Environmental, LLC |
| 5 | Phone number of modeler: | (505) 205-4819 |
| 6 | E-mail of modeler: | mschluep@alliantenv.com |

16-B: Brief

| | | | |
|---|---|------------------|-----|
| 1 | Was a modeling protocol submitted and approved? | Yes☒ | No☐ |
| 2 | Why is the modeling being done? | New Facility | |
| 3 | Describe the permit changes relevant to the modeling. | | |
| | N/A | | |
| 4 | What geodetic datum was used in the modeling? | NAD83 | |
| 5 | How long will the facility be at this location? | One year or less | |
| 6 | Is the facility a major source with respect to Prevention of Significant Deterioration (PSD)? | Yes☐ | No☒ |
| 7 | Identify the Air Quality Control Region (AQCR) in which the facility is located | 154 | |

| | | | |
|----|---|------------------------------|--|
| 8 | List the PSD baseline dates for this region (minor or major, as appropriate). | | |
| | NO2 | Not established (minor) | |
| | SO2 | Not established (minor) | |
| | PM10 | Not established (minor) | |
| | PM2.5 | Not established (minor) | |
| 9 | Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits). | | |
| | No Class I area is within 50km of the facility. The closest Class I area is the Pecos Wilderness, approximately 62km from the facility. | | |
| 10 | Is the facility located in a non-attainment area? If so describe below | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| | | | |
| 11 | Describe any special modeling requirements, such as streamline permit requirements. | | |
| | N/A | | |

16-C: Modeling History of Facility

| | | | | |
|---|---|---|----------------|--|
| 1 | Describe the modeling history of the facility, including the air permit numbers, the pollutants modeled, the National Ambient Air Quality Standards (NAAQS), New Mexico AAQS (NMAAQs), and PSD increments modeled. (Do not include modeling waivers). | | | |
| | Pollutant | Latest permit and modification number that modeled the pollutant facility-wide. | Date of Permit | Comments |
| | CO | | | No modeling history, this is an initial application. |
| | NO ₂ | | | |
| | SO ₂ | | | |
| | H ₂ S | | | |
| | PM2.5 | | | |
| | PM10 | | | |
| | Lead | | | |
| | Ozone (PSD only) | | | |
| | NM Toxic Air Pollutants (20.2.72.402 NMAC) | | | |

16-D: Modeling performed for this application

| | | | | | | |
|---|--|-------------------------------------|-------------------------------------|--------------------------|--------------------------|---------------------------------------|
| 1 | For each pollutant, indicate the modeling performed and submitted with this application. Choose the most complicated modeling applicable for that pollutant, i.e., culpability analysis assumes ROI and cumulative analysis were also performed. | | | | | |
| | Pollutant | ROI | Cumulative analysis | Culpability analysis | Waiver approved | Pollutant not emitted or not changed. |
| | CO | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | NO ₂ | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | SO ₂ | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | H ₂ S | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

| | | | | | | |
|--|---|-------------------------------------|-------------------------------------|--------------------------|--------------------------|-------------------------------------|
| | PM2.5 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | PM10 | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Lead | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | Ozone | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | State air toxic(s) (20.2.72.402 NMAC) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

16-E: New Mexico toxic air pollutants modeling

| | | | | | | |
|---|---|--------------------------------|--|--------------------------|-------------------|-------------------------------------|
| 1 | List any New Mexico toxic air pollutants (NMTAPs) from Tables A and B in 20.2.72.502 NMAC that are modeled for this application. N/A | | | | | |
| 2 | List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required. N/A | | | | | |
| | Pollutant | Emission Rate (pounds/hour) | Emission Rate Screening Level (pounds/hour) | Stack Height (meters) | Correction Factor | Emission Rate/ Correction Factor |
| | | | | | | |
| | | | | | | |

16-F: Modeling options

| | | | |
|---|--|---|-----------------------------|
| 1 | Was the latest version of AERMOD used with regulatory default options? If not explain below. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | | | |

16-G: Surrounding source modeling

| | | |
|---|--|---|
| 1 | Date of surrounding source retrieval | June 2022 |
| 2 | If the surrounding source inventory provided by the Air Quality Bureau was believed to be inaccurate, describe how the sources modeled differ from the inventory provided. If changes to the surrounding source inventory were made, use the table below to describe them. Add rows as needed. | |
| | AQB Source ID | Description of Corrections |
| | 1 | Volume Sources. Facility: Brasier – HMA GCP-3-4176: Facility moved out of this location. Fisher Sand and Gravel NM, Inc. is moving into this location with this permit application. |
| | | |

16-H: Building and structure downwash

| | | |
|---|--|---|
| 1 | How many buildings are present at the facility? | No buildings or other downwash structures will be located at this facility. |
| 2 | How many above ground storage tanks are present at the facility? | Three small totes/tanks. |
| | Was building downwash modeled for all buildings and tanks? If not explain why below. | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |

| | | |
|---|--|--|
| 3 | There will be no buildings or structures large enough to create downwash at this facility. | |
| 4 | Building comments | |

16-I: Receptors and modeled property boundary

| | | | | | | |
|---|--|------------------|---------|---|---|--|
| 1 | <p>“Restricted Area” is an area to which public entry is effectively precluded. Effective barriers include continuous fencing, continuous walls, or other continuous barriers approved by the Department, such as rugged physical terrain with a steep grade that would require special equipment to traverse. If a large property is completely enclosed by fencing, a restricted area within the property may be identified with signage only. Public roads cannot be part of a Restricted Area. A Restricted Area is required in order to exclude receptors from the facility property. If the facility does not have a Restricted Area, then receptors shall be placed within the property boundaries of the facility.</p> <p>Describe the fence or other physical barrier at the facility that defines the restricted area.</p> | | | | | |
| | The property is completely fenced and the terrain is very rugged and not accessible to the public. | | | | | |
| | | | | | | |
| 2 | Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area? | | | | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 3 | Are restricted area boundary coordinates included in the modeling files? | | | | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| 4 | Describe the receptor grids and their spacing. The table below may be used, adding rows as needed. | | | | | |
| | Grid Type | Shape | Spacing | Start distance from restricted area or center of facility | End distance from restricted area or center of facility | Comments |
| | Fine | Property Outline | 100m | 0m | 1000m | |
| | Medium | Property Outline | 250m | 1000m | 2500m | |
| | Coarse | Property Outline | 500m | 2500m | 5000m | |
| 5 | Describe receptor spacing along the fence line. | | | | | |
| | Receptors are placed every 25 meters along the fence line. | | | | | |
| 6 | Describe the PSD Class I area receptors. | | | | | |
| | N/A. PSD minor source baseline dates for AQCR 154 have not been established. | | | | | |

16-J: Sensitive areas

| | | | |
|---|---|------------------------------|--|
| 1 | Are there schools or hospitals or other sensitive areas near the facility? If so describe below. This information is optional (and purposely undefined) but may help determine issues related to public notice. | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
|---|---|------------------------------|--|

| | | | |
|---|--|------------------------------|--|
| 3 | The modeling review process may need to be accelerated if there is a public hearing. Are there likely to be public comments opposing the permit application? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
|---|--|------------------------------|--|

16-K: Modeling Scenarios

| | | | | | | | | | | | | |
|--|---|--------|-------------|--------|--|--|--|--|--|--|------------------------------|--|
| 1 | Identify, define, and describe all modeling scenarios. Examples of modeling scenarios include using different production rates, times of day, times of year, simultaneous or alternate operation of old and new equipment during transition periods, etc. Alternative operating scenarios should correspond to all parts of the Universal Application and should be fully described in Section 15 of the Universal Application (UA3). | | | | | | | | | | | |
| | The maximum short term emission rates in pounds per hour (lb/hr) for all emission sources were modeled without any factors (limiting hours, days etc.). This is the worst case modeling scenario for the facility. | | | | | | | | | | | |
| 2 | Which scenario produces the highest concentrations? Why? | | | | | | | | | | | |
| | See above. | | | | | | | | | | | |
| 3 | Were emission factor sets used to limit emission rates or hours of operation? (This question pertains to the "SEASON", "MONTH", "HROFDY" and related factor sets, not to the factors used for calculating the maximum emission rate.) | | | | | | | | | | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 4 | If so, describe factors for each group of sources. List the sources in each group before the factor table for that group. (Modify or duplicate table as necessary. It's ok to put the table below section 16-K if it makes formatting easier.) Sources: | | | | | | | | | | | |
| 5 | Hour of Day | Factor | Hour of Day | Factor | | | | | | | | |
| | 1 | | 13 | | | | | | | | | |
| | 2 | | 14 | | | | | | | | | |
| | 3 | | 15 | | | | | | | | | |
| | 4 | | 16 | | | | | | | | | |
| | 5 | | 17 | | | | | | | | | |
| | 6 | | 18 | | | | | | | | | |
| | 7 | | 19 | | | | | | | | | |
| | 8 | | 20 | | | | | | | | | |
| | 9 | | 21 | | | | | | | | | |
| | 10 | | 22 | | | | | | | | | |
| | 11 | | 23 | | | | | | | | | |
| | 12 | | 24 | | | | | | | | | |
| If hourly, variable emission rates were used that were not described above, describe them below. | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 6 | Were different emission rates used for short-term and annual modeling? If so describe below. | | | | | | | | | | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| | | | | | | | | | | | | |

16-L: NO₂ Modeling

| | | | |
|---|---|--|---|
| 1 | Which types of NO ₂ modeling were used? Check all that apply. | | |
| | <input checked="" type="checkbox"/> | ARM2 | |
| | <input type="checkbox"/> | 100% NO _x to NO ₂ conversion | |
| | <input type="checkbox"/> | PVMRM | |
| | <input type="checkbox"/> | OLM | |
| | <input type="checkbox"/> | Other: | |
| 2 | Describe the NO ₂ modeling. | | |
| | ARM2 was used to convert from NO _x to NO ₂ . | | |
| 3 | Were default NO ₂ /NO _x ratios (0.5 minimum, 0.9 maximum or equilibrium) used? If not describe and justify the ratios used below. | | Yes <input checked="" type="checkbox"/> |
| | | | No <input type="checkbox"/> |
| 4 | Describe the design value used for each averaging period modeled. | | |
| | 1-hour: High eighth high Annual: Highest Annual Average of Three Years | | |

16-M: Particulate Matter Modeling

| | | | | |
|---|---|--------------------------|---|--|
| 1 | Select the pollutants for which plume depletion modeling was used. | | | |
| | <input type="checkbox"/> | PM2.5 | | |
| | <input type="checkbox"/> | PM10 | | |
| | <input checked="" type="checkbox"/> | None | | |
| 2 | Describe the particle size distributions used. Include the source of information. | | | |
| | N/A | | | |
| 3 | Does the facility emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ ? Sources that emit at least 40 tons per year of NO _x or at least 40 tons per year of SO ₂ are considered to emit significant amounts of precursors and must account for secondary formation of PM2.5. | | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| 4 | Was secondary PM modeled for PM2.5? | | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 5 | If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below. | | | |
| | NO _x (ton/yr) | SO ₂ (ton/yr) | [PM2.5] _{annual} | [PM2.5] _{24-hour} |
| | 52.46 | 7.48 | 0.0001 ug/m ³ | 0.002 ug/m ³ |
| | | | | |

16-N: Setback Distances

| | |
|---|--|
| 1 | Portable sources or sources that need flexibility in their site configuration requires that setback distances be determined between the emission sources and the restricted area boundary (e.g. fence line) for both the initial location and future locations. Describe the setback distances for the initial location. |
| | No relocation or setback distances are requested for this specific location. |
| 2 | Describe the requested, modeled, setback distances for future locations, if this permit is for a portable stationary source. Include a haul road in the relocation modeling. |
| | Relocation modeling was performed to establish setbacks for this crusher plant. The Bloomfield meteorological data, as provided on NMED's website, was used and where applicable, background concentrations from the Sunland Park monitor was added to the model. |
| | The 1-hour NO2 setback distance is the most stringent at 660 meters . |

16-O: PSD Increment and Source IDs

| | | | |
|---|---|---|--|
| 1 | The unit numbers in the Tables 2-A, 2-B, 2-C, 2-E, 2-F, and 2-I should match the ones in the modeling files. Do these match? If not, provide a cross-reference table between unit numbers if they do not match below. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | Unit Number in UA-2 | Unit Number in Modeling Files | |
| | | | |
| | | | |
| 2 | The emission rates in the Tables 2-E and 2-F should match the ones in the modeling files. Do these match? If not, explain why below. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | | | |
| 3 | Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled? | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 4 | Which units consume increment for which pollutants? | | |
| | N/A, minor source baseline not yet established. | | |
| | Unit ID | NO ₂ | SO ₂ |
| | | | |
| | | | |
| 5 | PSD increment description for sources. (for unusual cases, i.e., baseline unit expanded emissions after baseline date). | | |
| 6 | Are all the actual installation dates included in Table 2A of the application form, as required? This is necessary to verify the accuracy of PSD increment modeling. If not please explain how increment consumption status is determined for the missing installation dates below. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | | | |

16-P: Flare Modeling

| | |
|---|---|
| 1 | For each flare or flaring scenario, complete the following: N/A, there is no flare at this facility |
|---|---|

| | Flare ID (and scenario) | Average Molecular Weight | Gross Heat Release (cal/s) | Effective Flare Diameter (m) |
|--|-------------------------|--------------------------|----------------------------|------------------------------|
| | | | | |

16-Q: Volume and Related Sources

| | | | |
|---|--|------------------------------|--|
| 1 | <p>Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines?</p> <p>If not please explain how increment consumption status is determined for the missing installation dates below.</p> <p>N/A</p> | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| 2 | <p>Describe the determination of sigma-Y and sigma-Z for fugitive sources.</p> <p>All volume sources for the crushing plant (crushers, screens, drop points, etc.) included in the model were based on AQB's modeling guidance, including haul roads.</p> <p><u>Sample calculations of Sigma Z_o and Sigma Y_o:</u></p> <p>Crusher and Screen Sigma Z_o: Crusher or Screen Height / 2.15 = 4 m / 2.15 = 1.86 m Crusher and Screen Sigma Y_o: Crusher or Screen width / 4.3 = 4 m / 4.3 = 0.93 m</p> <p><u>Haul Road:</u></p> <p>Large Trucks: Truck Height 4 m, Volume Height 6.8 m (per guidance) Sigma Z_o: 3.16 m; Release Height: 3.4 m</p> <p>Road Width = 8.37 m + 6 m = 14.37 m Sigma Y_o: 14.27 m / 2.15 = 6.68 m</p> <p>The length of the haul road is approximately 1120 m long. The number of volume sources for the haul road is length / width = 1120 m / 14.4 m = 78</p> | | |
| 3 | <p>Describe how the volume sources are related to unit numbers.</p> <p>Or say they are the same.</p> <p>They are the same</p> | | |
| 4 | <p>Describe any open pits.</p> <p>N/A</p> | | |
| 5 | <p>Describe emission units included in each open pit.</p> <p>N/A</p> | | |

16-R: Background Concentrations

| | | | | |
|---|--|---|---|--|
| 1 | Were NMED provided background concentrations used? Identify the background station used below. If non-NMED provided background concentrations were used describe the data that was used. | | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | CO: N/A | | | |
| | NO ₂ : N/A | | | |
| | PM _{2.5} : Santa Fe (350490020) | | | |
| | PM ₁₀ : Santa Fe (350490020) | | | |
| | SO ₂ : Bloomfield(350450009) | | | |
| | Other: | | | |
| | Comments: | For NO ₂ modeling, only added surrounding sources, not background. | | |
| 2 | Were background concentrations refined to monthly or hourly values? If so describe below. | | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| | | | | |

16-S: Meteorological Data

| | | | |
|---|--|---|-----------------------------|
| 1 | Was NMED provided meteorological data used? If so select the station used. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | Albuquerque | | |
| 2 | If NMED provided meteorological data was not used describe the data set(s) used below. Discuss how missing data were handled, how stability class was determined, and how the data were processed. | | |
| | | | |

16-T: Terrain

| | | | |
|---|---|---|-----------------------------|
| 1 | Was complex terrain used in the modeling? If not, describe why below. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| | | | |
| 2 | What was the source of the terrain data? | | |
| | USGS | | |

16-U: Modeling Files

| | | | |
|---|-------------------------------------|-----------------|--|
| 1 | Describe the modeling files: | | |
| | File name (or folder and file name) | Pollutant(s) | Purpose (ROI/SIA, cumulative, culpability analysis, other) |
| | Fisher Crusher CO | CO | ROI/SIA |
| | Fisher Crusher NO ₂ | NO ₂ | ROI/SIA |

| | | |
|--|-------|------------|
| Fisher Crusher NO2 Surr | NO2 | Cumulative |
| Fisher Crusher PM2.5 | PM2.5 | ROI/SIA |
| Fisher Crusher PM2.5 Surr | PM2.5 | Cumulative |
| Fisher Crusher PM10 | PM10 | ROI/SIA |
| Fisher Crusher PM10 Surr | PM10 | Cumulative |
| Fisher Crusher SO2 | SO2 | ROI/SIA |
| Fisher Crusher Relocation NO2 | NO2 | Relocation |
| Fisher Crusher Relocation NO2 Annual | NO2 | Relocation |
| Fisher Crusher Relocation NO2 PSD Incr | NO2 | Relocation |

16-V: PSD New or Major Modification Applications (Not Applicable)

| | | | |
|---|--|------------------------------|-----------------------------|
| 1 | A new PSD major source or a major modification to an existing PSD major source requires additional analysis. Was preconstruction monitoring done (see 20.2.74.306 NMAC and PSD Preapplication Guidance on the AQB website)? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2 | If not, did AQB approve an exemption from preconstruction monitoring? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3 | Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption. | | |
| 4 | Describe the additional impacts analysis required at 20.2.74.304 NMAC. | | |
| 5 | If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below. | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

16-W: Modeling Results

| | | | |
|---|---|------------------------------|--|
| 1 | If ambient standards are exceeded because of surrounding sources, a culpability analysis is required for the source to show that the contribution from this source is less than the significance levels for the specific pollutant. Was culpability analysis performed? If so describe below. | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| | | | |
| 2 | Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary. Also see results tables at the end of the report. All other averaging times and pollutants were below significance levels. | | |

| Pollutant, Time Period and Standard | Modeled Facility Concentration (µg/m3) | Modeled Concentration with Surrounding Sources (µg/m3) | Secondary PM (µg/m3) | Background Concentration (µg/m3) | Cumulative Concentration (µg/m3) | Value of Standard (µg/m3) | Percent of Standard | Location | | |
|--|---|---|----------------------------|--|--|---------------------------------|---------------------------|--------------|--------------|------------------|
| | | | | | | | | UTM E (m) | UTM N (m) | Elevation (m) |
| Annual NO2 | 1.00 | 8.67 | N/A | N/A | 8.67 | 94 | 9.2 | 439500 | 3834000 | 1953.72 |
| 1-hr NO2 | 69.40 | 139.92 | N/A | N/A | 139.92 | 188 | 74.4 | 440500 | 3834000 | 1956.39 |
| 24-hr PM2.5 | 1.50 | 6.34 | 0.002 | 9.2 | 15.55 | 35 | 44.4 | 443300 | 3834600 | 1935.22 |
| 24-hr PM10 | 7.80 | 9.07 | 0.002 | 19.0 | 28.07 | 150 | 18.7 | 443300 | 3833900 | 1935.18 |
| 1-hr SO2 | 11.0 | N/A | N/A | 3.50 | 13.80 | 196.4 | 7.0 | 444205 | 3836574 | 1918.61 |
| | | | | | | | | | | |

16-X: Summary/conclusions

1

A statement that modeling requirements have been satisfied and that the permit can be issued.

Fisher Sand & Gravel NM, Inc. has demonstrated through this air dispersion modeling analysis that the proposed facility neither cause nor contributes to an exceedance of the applicable standards.

Table 16-X1. Significant Impacts Level Analyses and ROI's

| Units | Criteria Pollutant | Averaging Period | Significance Level (ug/m ³) | NM/NAAQS (ug/m ³) | GLC _{max} (ug/m ³) | GLC _{max} < Significance Level? If Yes, NAAQS is met (ug/m ³) | ROI (m) |
|-----------|--------------------|------------------|--|----------------------------------|--|--|---------|
| Site-wide | NO ₂ | 1-hour | 7.5 | 188 | 69.40 | No | 7,440 |
| Site-wide | NO ₂ | Annual | 1.0 | 94 | 1.00 | No | 904 |
| Site-wide | PM _{2.5} | 24-hour | 1.2 | 35 | 1.50 | No | 582 |
| Site-wide | PM _{2.5} | Annual | 0.3 | 12 | 0.23 | Yes, no further analysis required | 0 |
| Site-wide | PM ₁₀ | 24-hour | 5.0 | 150 | 7.80 | No | 723 |
| Site-wide | CO | 1-hour | 2000 | 14,992 | 83.29 | Yes, no further analysis required | 0 |
| Site-wide | CO | 8-hour | 500 | 9,957 | 25.52 | Yes, no further analysis required | 0 |
| Site-wide | SO ₂ | 1-hour | 7.8 | 196.4 | 11.00 | No | 1,629 |
| Site-wide | SO ₂ | 3-hour | 25.0 | 1,309 | 5.59 | Yes, no further analysis required | 0 |
| Site-wide | SO ₂ | 24-hour | 5.0 | 261.9 | 1.27 | Yes, no further analysis required | 0 |
| Site-wide | SO ₂ | Annual | 1.0 | 52.4 | 0.15 | Yes, no further analysis required | 0 |

Table 16-X2. NM/NAAQS Analyses - Controlled Emissions

| Units | Criteria Pollutant | Averaging Period | NM/NAAQS (ug/m ³) | GLC _{max} (ug/m ³) | Background Concentration (ug/m ³) | Secondary Formation of PM _{2.5} (ug/m ³) | GLC _{max} incl. Background conc. (ug/m ³) | GLC _{max} incl. Background conc. < NAAQS? | ROI (m) | Percent of Standard (%) | Location of GLC _{max} UTM Coordinates (m) |
|-----------|--------------------|------------------|----------------------------------|--|--|--|---|--|---------|-------------------------|---|
| Site-wide | NO ₂ | 1-hour | 188 | 139.92 | With Surrounding Sources Only | -- | 139.92 | Yes | 7,440 | 74.4 | 440500 E, 3834000 N |
| Site-wide | NO ₂ | Annual | 94 | 8.67 | With Surrounding Sources Only | -- | 8.67 | Yes | 904 | 9.2 | 439500 E, 3834000 N |
| Site-wide | PM _{2.5} | 24-hour | 35 | 6.34 | 9.2 | 0.002 | 15.55 | Yes | 582 | 44.4 | 443300 E, 3834600 N |
| Site-wide | PM ₁₀ | 24-hour | 150 | 9.07 | 19.0 | 0.002 | 28.07 | Yes | 723 | 18.7 | 443300 E, 3833900 N |
| Site-wide | SO ₂ | 1-hour | 196.4 | 10.30 | 3.50 | -- | 13.80 | Yes | 1,629 | 7.0 | 444205 E, 3836574 N |

Background Concentrations:

24-hour PM_{2.5} and PM₁₀ background concentrations added from the North Central monitoring Station (ID: 3HM, 350490021), Santa Fe, NM.

24-hour PM₁₀ background concentrations added from the North Central monitoring Station (ID: 3HM, 350490020), Santa Fe, NM.

1-Hour SO₂ background concentration added from Bloomfield monitor, ID: 1ZB, 350450009.

Background concentrations provided in NMED Modeling Guidance, July 21, 2022.

NO₂ NAAQS analysis for annual and 1-hour include surrounding sources only. No background concentrations were required to be added.

PM_{2.5} and PM₁₀ NAAQS analysis include background concentrations, secondary PM formation, and surrounding sources.

SO₂ NAAQS analysis for 1-hour includes background concentrations. Surrounding sources are not required to be included.

Note:

Secondary PM_{2.5}:

Annual: 0.0001 ug/m³ [(52.46 tpy NO₂ /130260)+(7.48 tpy SO₂/53898)] x 0.2 ug/m³

24-hour: 0.002 ug/m³ [(52.46 tpy NO₂ /42498)+(7.48 tpy SO₂/9753)] x 1.2 ug/m³

Maximum Ground Level Concentration (GLC_{max}) modeled:

1-Hour NO₂: High 8th High which is representative of 98th percentile per EPA's guidance.

Annual NO₂: High 1st High

PM_{2.5} 24-Hour: The High 8th High

PM₁₀ 24-hour: High 4th High

SO₂ 1-Hour: High 4th High

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

Compliance Test History Table

| Unit No. | Test Description | Test Date |
|----------|---|-----------|
| Unit 38 | Tested in accordance with EPA test methods. | 6/4/2019 |

Section 18

Addendum for Streamline Applications

Do not print this section unless this is a streamline application.

Not applicable as this is not a streamline application.

Section 19

Requirements for Title V Program

Do not print this section unless this is a Title V application.

Not applicable as this is not a Title V application

Section 20

Other Relevant Information

Other relevant information. Use this attachment to clarify any part in the application that you think needs explaining. Reference the section, table, column, and/or field. Include any additional text, tables, calculations or clarifying information.

Additionally, the applicant may propose specific permit language for AQB consideration. In the case of a revision to an existing permit, the applicant should provide the old language and the new language in track changes format to highlight the proposed changes. If proposing language for a new facility or language for a new unit, submit the proposed operating condition(s), along with the associated monitoring, recordkeeping, and reporting conditions. In either case, please limit the proposed language to the affected portion of the permit.

This application includes relocation air dispersion modeling to allow the Plant to relocate according to the modeled set-back distances.

Section 21

Addendum for Landfill Applications

Do not print this section unless this is a landfill application.

Not applicable as this is not a landfill application.

Section 22: Certification

Company Name: Fisher Sand & Gravel NM Inc.

I, Brian Gambrel, hereby certify that the information and data submitted in this application are true and as accurate as possible, to the best of my knowledge and professional expertise and experience.

Signed this 21st day of July, 2022 upon my oath or affirmation, before a notary of the State of

New Mexico.

B Gambrel
*Signature

7/21/2022
Date

Brian Gambrel
Printed Name

Project Manager
Title

Scribed and sworn before me on this 21st day of July, 2022.

My authorization as a notary of the State of New Mexico expires on the

10th day of September, 2025.

LaDell Miller
Notary's Signature

LaDell Miller
Notary's Printed Name



*For Title V applications, the signature must be of the Responsible Official as defined in 20.2.70.7.AE NMAC.