20.2.72 NMAC
AIR QUALITY
PERMIT
APPLICATION

For

STRICKLAND SERVICES, LLC

STRICKLAND AGGREGATE CRUSHER PLANT
Grants, NM

PREPARED BY
MONTROSE ENVIRONMENTAL SOLUTIONS, INC.
ALBUQUERQUE, NM
AUGUST 2025

Mail Application To:		**For Department use only:**
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		

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.

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: ☐ 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.: 2830 in the amount of $500

☒ 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

		AI # if known: New	Updating Permit/NOI #: New
1	Facility Name: Strickland Aggregate Crusher Plant	Plant primary SIC Code (4 digits): 1429, 1442, 1499	
		Plant NAIC code (6 digits): 212319, 212321, 212399	
a	Facility Street Address (If no facility street address, provide directions from a prominent landmark): 129 Sakelares Blvd., Grants, NM 87020.		
2	Plant Operator Company Name: Strickland Services, LLC.	Phone/Fax: 505-290-3262	

a	Plant Operator Address: 1530 Ice Caves Rd, Grants, NM 87020-9501	
b	Plant Operator's New Mexico Corporate ID or Tax ID: 03-143570-00-0	
3	Plant Owner(s) name(s): Brandon Strickland	Phone/Fax: 505-290-3262
a	Plant Owner(s) Mailing Address(s): 1530 Ice Caves Rd, Grants, NM 87020-9501	
4	Bill To (Company): Strickland Services, LLC	Phone/Fax: 505-290-3262
a	Mailing Address: 1530 Ice Caves Rd, Grants, NM 87020-9501	E-mail: Stricklandnm@hotmail.com
5	☐ Preparer: ☒ Consultant: Paul Wade	Phone/Fax: (505) 830-9680 x 6
a	Mailing Address: 9100 2nd St NW Suite 200, Albuquerque, NM 87114	E-mail: Pwade@montrose-env.com
6	Plant Operator Contact: Daniel Strickland	Phone/Fax: 505-290-1843
a	Address: 1530 Ice Caves Rd, Grants, NM 87020-9501	E-mail: Stricklandnm@hotmail.com
7	Air Permit Contact: Daniel Strickland	Title: Plant Manager
a	E-mail: Stricklandnm@hotmail.com	Phone/Fax: 505-290-1843
b	Mailing Address: 1530 Ice Caves Rd, Grants, NM 87020-9501	
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? ☐ Yes ☒ No	1.b If yes to question 1.a, is it currently operating in New Mexico? ☐ Yes ☒ 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? ☐ Yes ☐ No ☒ NA	If yes to question 1.a, was the existing facility subject to a construction permit (20.2.72 NMAC) before submittal of this application? ☐ Yes ☐ No ☒ NA
3	Is the facility currently shut down? ☐ Yes ☐ No ☒ NA	If yes, give month and year of shut down (MM/YY):
4	Was this facility constructed before 8/31/1972 and continuously operated since 1972? ☐ Yes ☒ 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? ☐ Yes ☐ No ☒ N/A	
6	Does this facility have a Title V operating permit (20.2.70 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is: P-
7	Has this facility been issued a No Permit Required (NPR)? ☐ Yes ☒ No	If yes, the NPR No. is:
8	Has this facility been issued a Notice of Intent (NOI)? ☐ Yes ☒ No	If yes, the NOI No. is:
9	Does this facility have a construction permit (20.2.72/20.2.74 NMAC)? ☐ Yes ☒ No	If yes, the permit No. is:
10	Is this facility registered under a General permit (GCP-1, GCP-2, etc.)? ☐ Yes ☒ No	If yes, the register No. is:

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:	Daily:	Annually:
b	Proposed	Hourly: 300 tons/hour	Daily: 2100 tons/day	Annually: 350000 tons/year
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:	Daily:	Annually:
b	Proposed	Hourly: 300 tons/hour	Daily: 2100 tons/day	Annually: 350000 tons/year

Section 1-D: Facility Location Information

1	Latitude (decimal degrees): 35.13631	Longitude (decimal degrees): -107.8197	County: Cibola	Elevation (ft): 6448
2	UTM Zone: ☐ 12 or ☒ 13	Datum: ☒ NAD 83 ☐ WGS 84		
a	UTM E (in meters, to nearest 10 meters): 243090	UTM N (in meters, to nearest 10 meters): 3891800		
3	Name and zip code of nearest New Mexico town: Grants, 87020			
4	Detailed Driving Instructions from nearest NM town (attach a road map if necessary): At the intersection of I-40 and Highway 122 exit on north Highway 122. At the intersection of highways 122 and 117 (Historic Route 66) turn east (right) and travel 0.6 miles to the intersection of Highway 117 and Sakelares Blvd. Turn north (left) on Sakelares Blvd and travel 0.15 miles to the site entrance on the west side of the road.			
5	The facility is 1.5 miles southeast of Grants.			
6	Land Status of facility (check one): ☒ Private ☐ Indian/Pueblo ☐ Government ☐ BLM ☐ Forest Service ☐ Military			
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: Cibola County, Grants, Milan, Acoma Pueblo			
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/air-quality/modeling-publications/)? ☐ Yes ☒ No (20.2.72.206.A.7 NMAC) If yes, list all with corresponding distances in kilometers:			
9	Name nearest Class I area: San Pedro Parks Wilderness Area			
10	Shortest distance (in km) from facility boundary to the boundary of the nearest Class I area (to the nearest 10 meters): 131.6			
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: 37.19			
12	Method(s) used to delineate the Restricted Area: Fenced with Gate "**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? ☒ Yes ☐ 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? ☒ No ☐ Yes If yes, what is the name and permit number (if known) of the other facility?			

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 ($\frac{\text{hours}}{\text{day}}$): 12	($\frac{\text{days}}{\text{week}}$): 7	($\frac{\text{weeks}}{\text{year}}$): 52	($\frac{\text{hours}}{\text{year}}$): 3669		
2	Facility's maximum daily operating schedule (if less than 24 $\frac{\text{hours}}{\text{day}}$)? Start: 6		X AM ☐PM	End: 6	☐AM XPM	
3	Month and year of anticipated start of construction: Upon Permit Issuance					
4	Month and year of anticipated construction completion: Upon Permit Issuance					
5	Month and year of anticipated startup of new or modified facility: Upon Permit Issuance					
6	Will this facility operate at this site for more than one year? ☒ Yes ☐ No					

Section 1-F: Other Facility Information

1	Are there any current Notice of Violations (NOV), compliance orders, or any other compliance or enforcement issues related to this facility? ☐ Yes ☒ No If yes, specify:		
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? ☐ Yes ☒ No If Yes, provide the 1c & 1d info below:		
c	Document Title:	Date:	Requirement # (or page # and paragraph #):
d	Provide the required text to be inserted in this permit:		
2	Is air quality dispersion modeling or modeling waiver being submitted with this application? ☒ Yes ☐ 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? ☐ Yes ☒ No		
4	Will this facility be a source of federal Hazardous Air Pollutants (HAP)? ☒ Yes ☐ No		
a	If Yes, what type of source? ☐ **Major** (☐ ≥10 tpy of any single HAP **OR** ☐ ≥25 tpy of any combination of HAPS) **OR** ☒ **Minor** (☒ <10 tpy of any single HAP **AND** ☒ <25 tpy of any combination of HAPS)		
5	Is any unit exempt under 20.2.72.202.B.3 NMAC? ☐ Yes ☒ No		
a	If yes, include the name of company providing commercial electric power to the facility: _____ 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)

1	☐ I have filled out Section 18, "Addendum for Streamline Applications."	☒ 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):		Phone:
a	R.O. Title:	R.O. e-mail:	
b	R. O. Address:		
2	Alternate Responsible Official (20.2.70.300.D.2 NMAC):		Phone:
a	A. R.O. Title:	A. R.O. e-mail:	
b	A. R. O. Address:		
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):		
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.):		
a	Address of Parent Company:		
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.):		
6	Telephone numbers & names of the owners' agents and site contacts familiar with plant operations:		

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:

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-to 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 Paul Wade, Email pwade@montrose-env.com Phone number (505) 830-9680 x6.

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 format shall be saved as a PDF file from within the electronic document that created the file. If you are unable to provide Microsoft office compatible electronic files or internally generated PDF files of files (items that were not created electronically: i.e. brochures, maps, graphics, etc,), submit these items in hard copy format. We must be able to review the formulas and inputs that calculated the emissions.

3) It is preferred that this application form be submitted as 4 electronic files (3 MSWord docs: Universal Application section 1 [UA1], Universal Application section 3-19 [UA3], and Universal Application 4, the modeling report [UA4]) and 1 Excel file of the tables (Universal Application section 2 [UA2]). Please include as many of the 3-19 Sections as practical in a single MS Word electronic document. Create separate electronic file(s) if a single file becomes too large or if portions must be saved in a file format other than MS Word.

4) The electronic file names shall be a maximum of 25 characters long (including spaces, if any). The format of the electronic Universal Application shall be in the format: "A-3423-FacilityName". The "A" distinguishes the file as an application submittal, as opposed to other documents the Department itself puts into the database. Thus, all electronic application submittals should begin with "A-". Modifications to existing facilities should use the core permit number (i.e. '3423') the Department assigned to the facility as the next 4 digits. Use 'XXXX' for new facility applications. The format of any separate electronic submittals (additional submittals such as non-Word attachments, re-submittals, application updates) and Section document shall be in the format: "A-3423-9-description", where "9" stands for the section # (in this case Section 9-Public Notice). Please refrain, as much as possible, from submitting any scanned documents as this file format is extremely large, which uses up too much storage capacity in our database. Please take the time to fill out the header information throughout all submittals as this will identify any loose pages, including the Application Date (date submitted) & Revision number (0 for original, 1, 2, etc.; which will help keep track of subsequent partial update(s) to the original submittal. Do not use special symbols (#, @, etc.) in file names. The footer information should not be modified by the applicant.

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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 #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
RAW	Raw Material Pile	N/A	N/A	N/A	N/A	300tph	N/A 2025	N/A N/A	30502007	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
1	Crushing Plant Feeder	Metso Lokotrack	LT1213S	182309	300tph	300tph	2022 2025	N/A N/A	30502031	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
2	Impact Crusher	Metso Lokotrack	LT1213S	182309	300tph	300tph	2022 2025	C3 N/A	30502510	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
3	Impact Crusher Conveyer	Metso Lokotrack	LT1213S	182309	300tph	300tph	2022 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
4	Screen	Metso Lokotrack	LT1213S	182309	300tph	300tph	2022 2025	C2 N/A	30502015	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
5	Screen Underconveyer	Metso Lokotrack	LT1213S	182309	300tph	300tph	2022 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
6	Screen Underconveyer	Metso Lokotrack	LT1213S	182309	300tph	60tph	2022 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
7	Return Conveyer to Crusher Plant Feeder	Metso Lokotrack	LT1213S	182309	300tph	60tph	2022 2025	C1 N/A	30502031	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
8	Crushing Plant Engine	CAT	C9.3B	NGh04046	415 HP/310 kW	415HP/310 kW	28-Mar-22 2025	N/A S1	30502099	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	CI	---
9	Screen Plant Feeder	McCloskey International	S250	92434	300tph	300tph	2019 2025	N/A N/A	30502031	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
10	Feeder Conveyer	McCloskey International	S250	92434	300tph	300tph	2019 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
11	Screen	McCloskey International	S250	92434	300tph	300tph	2019 2025	C2 N/A	30502015	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
12	Screen Underconveyer	McCloskey International	S250	92434	300tph	120tph	2019 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
13	Stacker Conveyer	McCloskey International	S250	92434	300tph	120tph	2019 2025	C5 N/A	30503006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
14	Screen Underconveyer	McCloskey International	S250	92434	300tph	60tph	2019 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---

Unit Number[1]	Source Description	Make	Model #	Serial #	Manufacturer's Rated Capacity[3] (Specify Units)	Requested Permitted Capacity[3] (Specify Units)	Date of Manufacture[2] / Date of Construction/ Reconstruction[2]	Controlled by Unit # / Emissions vented to Stack #	Source Classification Code (SCC)	For Each Piece of Equipment, Check One	RICE Ignition Type (CI, SI, 4SLB, 4SRB, 2SLB)[4]	Replacing Unit No.
15	Stacker Conveyer	McCloskey International	S250	92434	300tph	60tph	2019 2025	C5 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
16	Screen Underconveyer	McCloskey International	S250	92434	300tph	60tph	2019 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
17	Stacker Conveyer	McCloskey International	S250	92434	300tph	60tph	2019 2025	C5 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
18	Screen Underconveyer	McCloskey International	S250	92434	300tph	60tph	2019 2025	C1 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
19	Stacker Conveyer	McCloskey International	S250	92434	300tph	60tph	2019 2025	C5 N/A	30502006	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
20	Screen Plant Engine	CAT	C7.1B	6J600542	225 HP/168 kW	226 HP	July 23 2019 2025	N/A S2	30502099	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	CI	---
TL	Truck Loading	N/A	N/A	N/A	N/A	300tph	N/A 2025	N/A N/A	30502033	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
FPILE	Finish Pile	N/A	N/A	N/A	N/A	300tph	N/A 2025	N/A N/A	30502007	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---
ROAD	Haul Road	N/A	N/A	N/A	N/A	70 trucks/day	N/A 2025	C4 N/A	30502011	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced	---	---

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 Activities[1] (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 https://www.env.nm.gov/wp-content/uploads/sites/2/2017/10/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. / Serial No.	Max Capacity / Capacity Units	List Specific 20.2.72.202 NMAC Exemption (e.g. 20.2.72.202.B.5) / Insignificant Activity citation (e.g. IA List Item #1.a)	Date of Manufacture /Reconstruction[2] / Date of Installation /Construction[2]	For Each Piece of Equipment, Check Onc
T1	Diesel-Fuel Tank	N/A	N/A N/A	4000 Gallons	20.2.72.202.B.2	N/A 2025	☐ Existing (unchanged) ☐ To be Removed ☑ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ To be Replaced
							☐ Existing (unchanged) ☐ To be Removed ☐ New/Additional ☐ Replacement Unit ☐ To Be Modified ☐ 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
C1	Conveyor Transfer Points - Wet Dust Suppression System	2025	PM	3, 5, 6, 7, 10, 12, 14, 16, 18	95.33%	AP-42 11.19.2 Emission Factors
C2	Screen - Wet Dust Suppression System	2025	PM	4, 11	91.20%	AP-42 11.19.2 Emission Factors
C3	Crusher - Wet Dust Suppression System	2025	PM	2	77.78%	AP-42 11.19.2 Emission Factors
C4	Unpaved Roads - Base Course and Watering	2025	PM	ROAD	80.00%	NMED Pollicy
C5	Stacker Conveyor Drop to Pile - Wet Dust Suppression System	2025	PM	13, 15, 17, 19	60.00%	AP-42 11.19.2 Emission Factors

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		PM[1]		PM10[1]		PM2.5[1]		H_2S		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	lb/hr	ton/yr
RAW	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22	-	-	-	-
1	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22	-	-	-	-
2	-	-	-	-	-	-	-	-	1.62	3.55	0.72	1.58	0.13	0.29	-	-	-	-
3	-	-	-	-	-	-	-	-	0.90	1.97	0.33	0.72	0.10	0.21	-	-	-	-
4	-	-	-	-	-	-	-	-	7.50	16.43	2.61	5.72	0.18	0.39	-	-	-	-
5	-	-	-	-	-	-	-	-	0.90	1.97	0.33	0.72	0.098	0.21	-	-	-	-
6	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.020	0.043	-	-	-	-
7	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.020	0.043	-	-	-	-
8	0.14	0.31	0.050	0.11	0.010	0.022	0.0043	0.0095	0.0030	0.0066	0.0030	0.0066	0.0030	0.0066	-	-	2.4E-05	5.2E-05
9	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22	-	-	-	-
10	-	-	-	-	-	-	-	-	0.90	1.97	0.33	0.72	0.10	0.21	-	-	-	-
11	-	-	-	-	-	-	-	-	7.50	16.43	2.61	5.72	0.18	0.39	-	-	-	-
12	-	-	-	-	-	-	-	-	0.36	0.79	0.13	0.29	0.039	0.085	-	-	-	-
13	-	-	-	-	-	-	-	-	0.79	1.20	0.37	0.57	0.057	0.068	-	-	-	-
14	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.020	0.043	-	-	-	-
15	-	-	-	-	-	-	-	-	0.40	0.60	0.19	0.28	0.28	0.043	-	-	-	-
16	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.20	0.043	-	-	-	-
17	-	-	-	-	-	-	-	-	0.40	0.60	0.19	0.28	0.28	0.043	-	-	-	-
18	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.20	0.043	-	-	-	-
19	-	-	-	-	-	-	-	-	0.40	0.60	0.19	0.28	0.28	0.043	-	-	-	-
20	0.15	0.32	1.30	2.84	0.070	0.15	0.0024	0.0053	0.074	0.16	0.074	0.16	0.074	0.16	-	-	1.3E-05	2.9E-05
TL	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22	-	-	-	-
FPILE	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	43.64	77.24	11.12	19.69	1.11	1.97	-	-	-	-
Totals	**0.29**	**0.63**	**1.35**	**2.95**	**0.080**	**0.17**	**0.0067**	**0.015**	**76.19**	**140.52**	**24.23**	**44.54**	**4.07**	**5.434**	**-**	**-**	**3.7E-05**	**8.2E-05**

[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.	NOx		CO		VOC		SOx		PM[1]		PM10[1]		PM2.5[1]		H_2S		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	lb/hr	ton/yr
RAW	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057	-	-	-	-
1	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057	-	-	-	-
2	-	-	-	-	-	-	-	-	0.36	0.21	0.16	0.095	0.030	0.0175	-	-	-	-
3	-	-	-	-	-	-	-	-	0.042	0.025	0.014	0.0081	0.0039	0.0023	-	-	-	-
4	-	-	-	-	-	-	-	-	0.66	0.39	0.22	0.13	0.015	0.0088	-	-	-	-
5	-	-	-	-	-	-	-	-	0.042	0.025	0.014	0.0081	0.0039	0.0023	-	-	-	-
6	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046	-	-	-	-
7	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046	-	-	-	-
8	0.14	0.26	0.050	0.090	0.010	0.018	0.0043	0.0079	0.0030	0.0055	0.0030	0.0055	0.0030	0.0055	-	-	2.39E-05	4.39E-05
9	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057	-	-	-	-
10	-	-	-	-	-	-	-	-	0.042	0.025	0.014	0.0081	0.0039	0.0023	-	-	-	-
11	-	-	-	-	-	-	-	-	0.66	0.39	0.22	0.13	0.015	0.0088	-	-	-	-
12	-	-	-	-	-	-	-	-	0.017	0.010	0.0055	0.0032	0.0016	0.00091	-	-	-	-
13	-	-	-	-	-	-	-	-	0.48	0.19	0.22	0.091	0.034	0.014	-	-	-	-
14	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046	-	-	-	-
15	-	-	-	-	-	-	-	-	0.24	0.10	0.11	0.045	0.017	0.0069	-	-	-	-
16	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046	-	-	-	-
17	-	-	-	-	-	-	-	-	0.24	0.10	0.11	0.045	0.017	0.0069	-	-	-	-
18	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046	-	-	-	-
19	-	-	-	-	-	-	-	-	0.24	0.10	0.11	0.045	0.017	0.0069	-	-	-	-
20	0.15	0.27	1.30	2.38	0.070	0.13	0.0024	0.0045	0.074	0.14	0.074	0.14	0.074	0.14	-	-	1.34E-05	2.46E-05
TL	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057	-	-	-	-
FPILE	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057	-	-	-	-
ROAD	-	-	-	-	-	-	-	-	3.35	4.11	0.85	1.05	0.090	0.10	-	-	-	-
Totals	0.29	0.53	1.35	2.47	0.080	0.15	0.0068	0.012	16.38	9.83	6.84	3.70	1.04	0.61			3.74E-05	6.85E-05

[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-F: Additional Emissions during Startup, Shutdown, and Routine Maintenance (SSM)

X This table is intentionally left blank since all emissions at this facility due to routine or predictable startup, shutdown, or scehduled maintenance are no higher than those listed in Table 2-E and a malfunction emission limit is not already permitted or requested. If you are required to report GHG emissions as described in Section 6a, include any GHG emissions during Startup, Shutdown, and/or Scheduled Maintenance (SSM) in Table 2-P. Provide an explanations of SSM emissions in Section 6 and 6a.

All applications for facilities that have emissions during routine our predictable startup, shutdown or scheduled maintenance (SSM)[1], including NOI applications, must include in this table the Maximum Emissions during routine or predictable startup, shutdown and scheduled maintenance (20.2.7 NMAC, 20.2.72.203.A.3 NMAC, 20.2.73.200.D.2 NMAC). In Section 6 and 6a, provide emissions calculations for all SSM emissions reported in this table. Refer to "Guidance for Submittal of Startup, Shutdown, Maintenance Emissions in Permit Applications (https://www.env.nm.gov/aqb/permit/aqb_pol.html) for more detailed instructions. 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		PM[2]		PM10[2]		PM2.5[2]		H_2S		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	lb/hr	ton/yr
Totals																		

[1] **For instance**, if the short term steady-state Table 2-E emissions are 5 lb/hr and the SSM rate is 12 lb/hr, enter 7 lb/hr in this table. If the annual steady-state Table 2-E emissions are 21.9 TPY, and the number of scheduled SSM events result in annual emissions of 31.9 TPY, enter 10.0 TPY in the table below.

[2] **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		☐ H_2S or ☐ 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
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)
						(acfs)	(dscfs)			
S1	8	H	No	10	850.6	1660	NA	NA	323.3	0.33
S2	20	H	No	6	800	736	NA	NA	250	0.33

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		Provide Pollutant Name Here ☐HAP or☐ TAP		Provide Pollutant Name Here ☐HAP or☐ TAP		Provide Pollutant Name Here ☐HAP or☐ TAP		Provide Pollutant Name Here ☐HAP or☐ TAP		Provide Pollutant Name Here ☐HAP or☐ TAP		Provide Pollutant Name Here ☐HAP or☐ TAP		Provide Pollutant Name Here ☐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
S1	8	0.017	0.031																
S2	20	0.0097	0.018																
Totals:		0.027	0.049																

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
8	Ultra-Low sulfur diesel	Purchased Commercial	128,000 BTU/Gallon	20.6 gallons	75581 gallons	0.0015	Neg.
20	Ultra-Low sulfur diesel	Purchased Commercial	128,000 BTU/Gallon	11.6 gallons	42560 gallons	0.0015	Neg.

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	7.05	130	58.54	0.0062	65.66	0.0079

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	2025	Diesel	FX	FX	95	15	1.52		LG	LG	Good	118,141	30.00

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	
					MG: Medium Gray	
					BL: Black	
					OT: Other (specify)	

Note: 1.00 bbl = 0.159 M^3 = 42.0 gal

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	Aggregate	Solid	350,000 tons	Construction Sand and Gravel	Aggregate	Solid	350,000 tons
Recycle	Recycle Asphalt or Concrete	Solid		Recycled Material	Recycle	Solid	

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
N/A									

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
NA								

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_2O ton/yr	CH_4 ton/yr	SF_6 ton/yr	PFC/HFC ton/yr[2]									Total GHG Mass Basis ton/yr[4]	Total CO_2e ton/yr[5]
Unit No.	**GWPs [1]**	**1**	**298**	**25**	**22,800**	**footnote 3**										
8	**mass GHG**	1015.5	0.0080	0.041											1016	
	CO_2e	1015.5	2.37	1.02												1019
20	**mass GHG**	478.2	0.0037	0.019											478	
	CO_2e	478.2	1.12	0.48												480
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO_2e															
	mass GHG															
	CO2e															
Total	**mass GHG**	1494	0.012	0.060											1494	
	CO_2e	1494	3.49	1.50												1499

[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] **CO_2e** 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.

Strickland Services, LLC is applying for a new 20.2.72 NMAC air quality permit for a 300 ton per hour (tph) aggregate crushing and screening plant to be operated within county of Cibola, state of New Mexico. Regulation governing this permit application is 20.2.72.200.A(1) NMAC.

Strickland Services, LLC has retained Montrose Environmental Solutions, LLC (Montrose) to assist with the permit application. The plant will be identified as Strickland Aggregate Crusher Plant and will be located at 129 Sakelares Blvd in Grants, New Mexico 87020.

The 300 tph crushing and screening operations will include an aggregate/recycle raw materials pile, a feeder for the crushing plant and screening plant, one (1) impact crusher, one (1) prescreen, one (1) 3-deck screen, nine (9) transfer conveyors, and four (4) stacker conveyors. The crushing plant will be powered by a 416 horsepower (hp) (314 kW) diesel-fired engine. The screening plant will be powered by a 225 horsepower (hp) (168 kW) diesel-fired engine. Aggregate/recycle material will be delivered to the site by truck and stored in the raw material aggregate/recycle storage pile. Material from the raw material aggregate/recycle storage pile will first be processed through the crushing plant. Processed material from the crushing plant will be fed through the screening plant. From the screening plant the processed material will be sent to the finish storage piles until transported from the facility to off-site sales. The crushing and screening plants will limit hourly processing rate to 300 tons per hour (tph) and 350,000 tons per year (tpy). The first hour of each day will be limited to starting and warming up of the engines. After the first hour, material processing can occur. The engine hours of operation are presented below in Table 3-1 and the plant material processing are presented below in Table 3-2.

TABLE 3-1: Aggregate Crushing and Screening Plant Engine Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
7:00 AM	0	0	1	1	1	1	1	1	1	0	0	0
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	0	0	1	1	1	1	1	1	1	0	0	0
5:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**8**	**8**	**10**	**12**	**12**	**12**	**12**	**12**	**10.5**	**8**	**8**	**8**

TABLE 3-2: Aggregate Crushing and Screening Plant Production Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
8:00 AM	0	0	1	1	1	1	1	1	1	0	0	0
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	0	0	1	1	1	1	1	1	1	0	0	0
5:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	**7**	**7**	**9**	**11**	**11**	**11**	**11**	**11**	**9.5**	**7**	**7**	**7**

Haul truck traffic entering the facility will be controlled with base course and road watering. Haul truck traffic involving the Strickland Aggregate Crusher Plant operation will be limited to a maximum of 70 trucks per day.

If you have any questions regarding this significant permit application, please call Paul Wade of Montrose. at (505) 830-9680 ext 6 or Brandon Strickland of Strickland Services LLC. at (505) 290-3262.

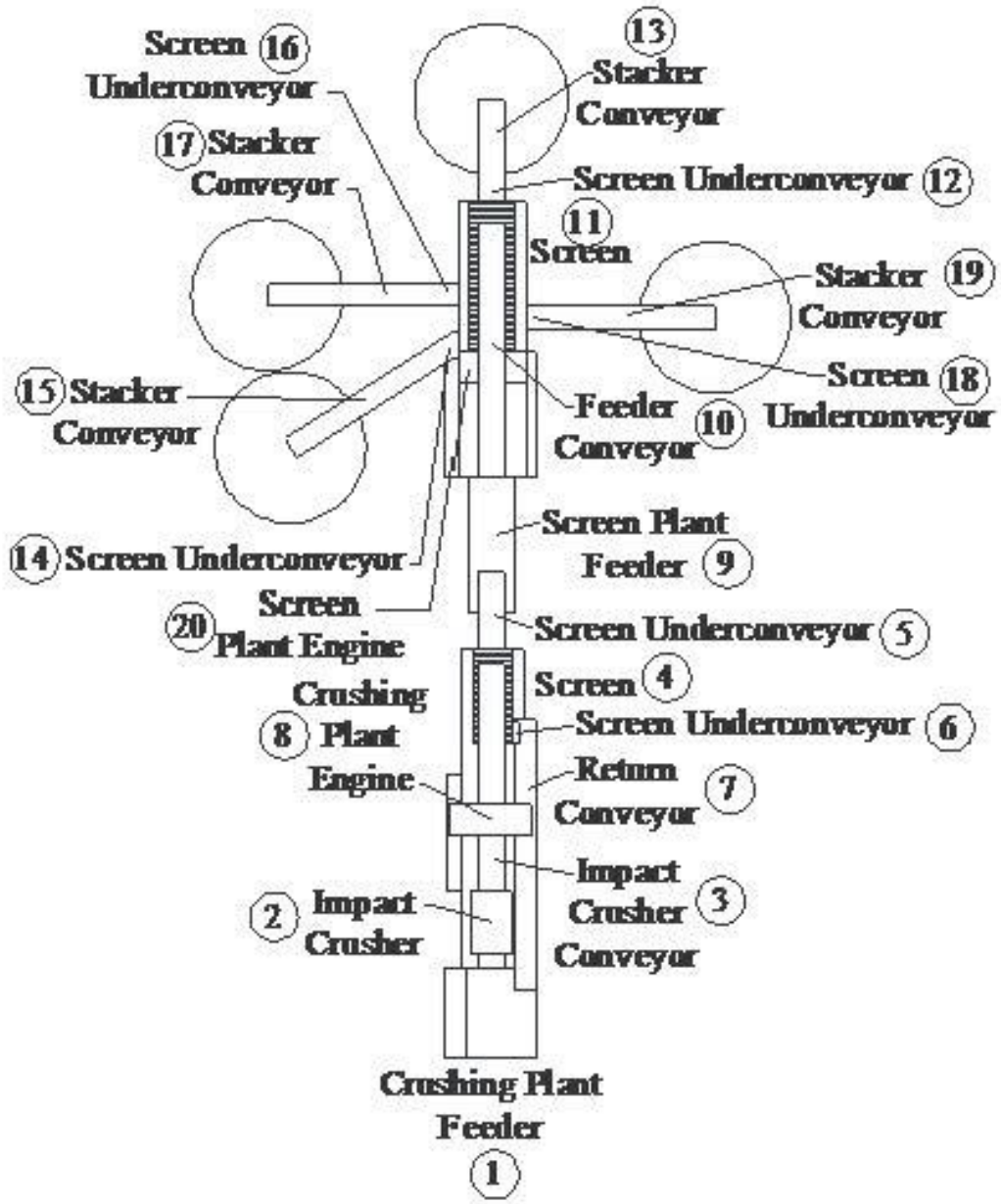
Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM)

No SSM emissions are proposed or submitted for this facility. For material processing equipment at the Strickland Aggregate Crusher Plant, Strickland Services, LLC will follow normal industry practices in minimizing emissions during startup, 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 aggregate processing.

Section 4

Process Flow Sheet

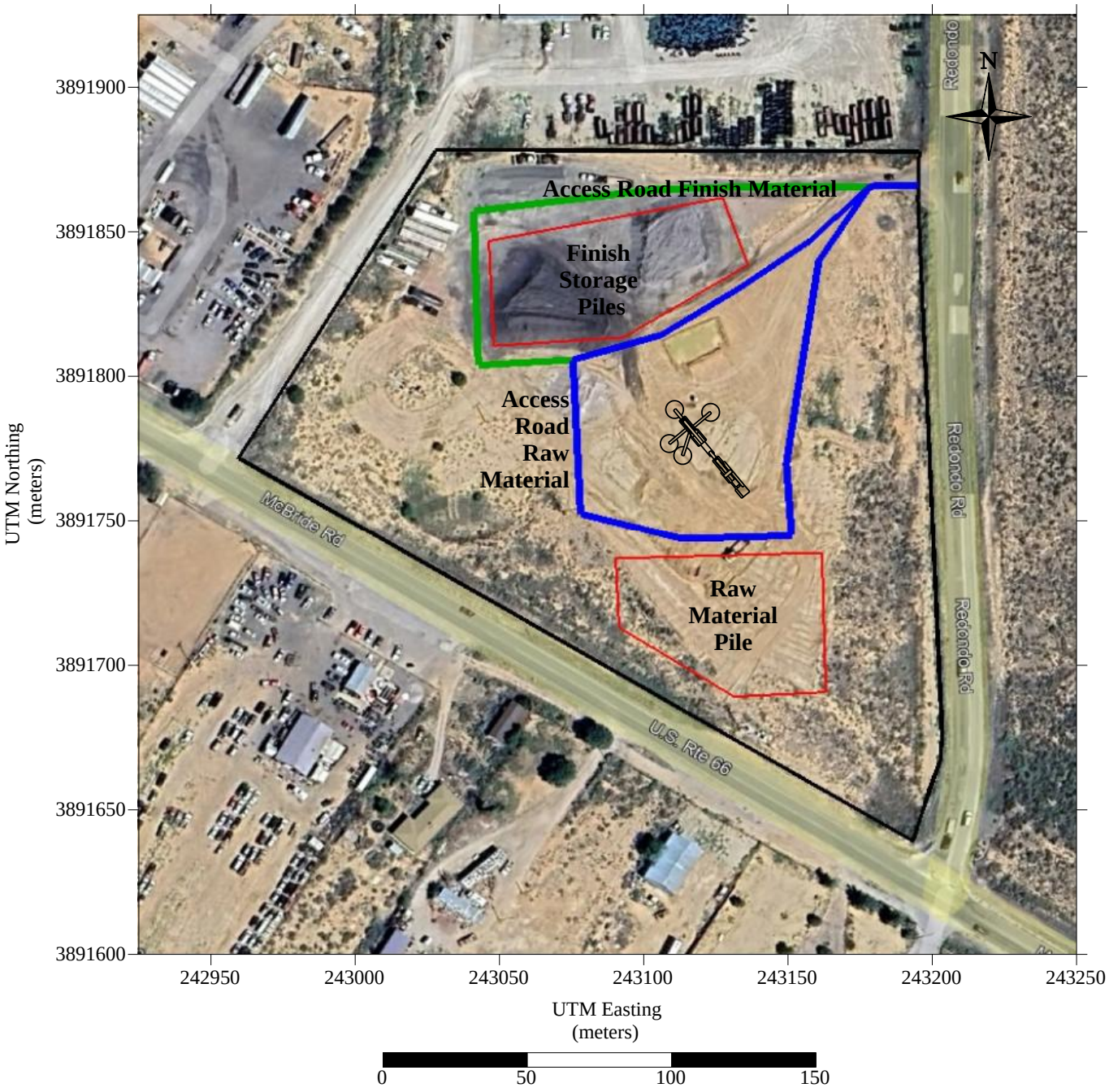
A **process flow sheet** and/or block diagram indicating the individual equipment, all emission points and types of control applied to those points. The unit numbering system should be consistent throughout this application.



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.



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.

Aggregate Crushing and Screening Plants

Pre-Control Particulate Emission Rates

Material Handling ($PM_{2.5}$, PM_{10}, and PM)

To estimate material handling pre-control particulate emissions rates for crushing, screening, and conveyor transfer operations, emission factors were obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Aug. 2004, Section 11.19.2, Table 11.19.2-2. To determine missing $PM_{2.5}$ emission factors the ratio of 0.35/0.053 from $PM_{10}/PM_{2.5}$ *k* factors found in AP-42 Section 13.2.4 (11/2006) were used.

To estimate material handling particulate emission rates for aggregate handling operations (aggregate storage piles/stacker drop to storage pile/loading feed bins), an emission equation was obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Section 13.2.4 (11/2004), where the k (TSP = 0.74, PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the maximum hourly emission rate is the NMED default of 11 MPH and for determining the annual emission rate is based on the average wind speed for Grants (2001 – 2011) of 8.3 mph (see Section 7) and the NMED default moisture content of 2 percent.

Uncontrolled annual emissions for tons per year (tpy) were calculated assuming daylight operation for 4380 hours per year. This limit is based on the natural limitation of daylight hours for the safety of personnel operating the aggregate plant.

Aggregate Material Handling – Storage Piles, Stacker drop to Storage Piles, and Feed Bin Loading Emission Equation:
Maximum Hour Emission Factor

E (lbs/ton) = $k \times 0.0032 \times (U/5)^{1.3} / (M/2)^{1.4}$

E_{PM} (lbs/ton) = $0.74 \times 0.0032 \times (11/5)^{1.3} / (2/2)^{1.4}$

E_{PM10} (lbs/ton) = $0.35 \times 0.0032 \times (11/5)^{1.3} / (2/2)^{1.4}$

$E_{PM2.5}$ (lbs/ton) = $0.053 \times 0.0032 \times (11/5)^{1.3} / (2/2)^{1.4}$

E_{PM} (lbs/ton) = 0.00660 lbs/ton;

E_{PM10} (lbs/ton) = 0.00312 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.00047 lbs/ton

Annual Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$

E_{PM} (lbs/ton) = 0.74 x 0.0032 x $(8.3/5)^{1.3}$ / $(2/2)^{1.4}$

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(8.3/5)^{1.3}$ / $(2/2)^{1.4}$

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(8.3/5)^{1.3}$ / $(2/2)^{1.4}$

E_{PM} (lbs/ton) = 0.00458 lbs/ton;

E_{PM10} (lbs/ton) = 0.00216 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.00033 lbs/ton

AP-42 Section 11.19.2 Table 11.19.2-2 Emission Factors:

All Bin Unloading and Conveyor Transfers = Uncontrolled Conveyor Transfer Point Emission Factor
Crushing = Uncontrolled Tertiary Crushing Emission Factor
Screening = Uncontrolled Screening Emission Factor

Material Handling Emission Factors:

Process Unit	PM Emission Factor (lbs/ton)	PM_{10} Emission Factor (lbs/ton)	$PM_{2.5}$ Emission Factor (lbs/ton)
Uncontrolled Tertiary Crushing	0.00540	0.00240	0.00044
Uncontrolled Screening	0.02500	0.00870	0.00059
Feed Bin Unloading, and Conveyor Transfers	0.00300	0.00110	0.00033
Uncontrolled Max Hourly Aggregate Storage Piles, Aggregate Drop to Piles, Feeder Loading	0.00660	0.00312	0.00047
Uncontrolled Annual Aggregate Storage Piles, Aggregate Drop to Piles, Feeder Loading	0.00458	0.00216	0.00033

The following equation was used to calculate the hourly emission rate for each process unit:

Emission Rate (lbs/hour) = Process Rate (tons/hour) * Emission Factor (lbs/ton)

The following equation was used to calculate the annual emission rate for each process unit:

$$\text{Emission Rate (tons/year)} = \frac{\text{Emission Rate (lbs/hour)} * \text{Operating Hour (hrs/year)}}{2000 \text{ lbs/ton}}$$

Table 6-1 Pre-Controlled Regulated Process Equipment Emission Rates

Unit #	Process Unit Description	Process Rate (tph)	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
RAW	Raw Material Pile	300	1.98	3.01	0.94	1.42	0.14	0.22
Main Plant								
1	Crushing Plant Feeder	300	1.98	3.01	0.94	1.42	0.14	0.22
2	Impact Crusher	300	1.98	3.01	0.94	1.42	0.14	0.22
3	Impact Crusher Under Conveyor	300	1.62	3.55	0.72	1.58	0.13	0.29
4	Screen	300	0.90	1.97	0.33	0.72	0.10	0.21
5	Screen Under Conveyor	300	7.50	16.43	2.61	5.72	0.18	0.39
6	Screen Under Conveyor	60	0.90	1.97	0.33	0.72	0.098	0.21
7	Return Conveyor to Feeder	60	0.18	0.39	0.066	0.14	0.020	0.043
9	Screening Plant Feeder	300	1.98	3.01	0.94	1.42	0.14	0.22
10	Feed Conveyor	300	0.90	1.97	0.33	0.72	0.10	0.21
11	Screen	300	7.50	16.43	2.61	5.72	0.18	0.39
12	Screen Under Conveyor	120	0.36	0.79	0.13	0.29	0.039	0.085
13	Stacker Conveyor to Pile	120	0.79	1.20	0.37	0.57	0.057	0.086
14	Screen Under Conveyor	60	0.18	0.39	0.066	0.14	0.020	0.043
15	Stacker Conveyor to Pile	60	0.40	0.60	0.19	0.28	0.028	0.043
16	Screen Under Conveyor	60	0.18	0.39	0.066	0.14	0.020	0.043
17	Stacker Conveyor to Pile	60	0.40	0.60	0.19	0.28	0.028	0.043
18	Screen Under Conveyor	60	0.18	0.39	0.066	0.14	0.020	0.043
19	Stacker Conveyor to Pile	60	0.40	0.60	0.19	0.28	0.028	0.043
TL	Finish Pile	300	1.98	3.01	0.94	1.42	0.14	0.22
FPILE	Truck Loading	300	1.98	3.01	0.94	1.42	0.14	0.22
Road	Haul Road	300	43.64	77.24	11.12	19.69	1.11	1.97
		TOTALS	32.46	63.11	13.01	24.72	1.77	3.30

Controlled Particulate Emission Rates

No fugitive dust controls or emission reductions are proposed for the aggregate storage piles, or loading of the aggregate feed bin with the exception of limiting annual production rates.

A "Wet Suppression" system will control emissions of particulate matter during crushing and screening. 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 found in AP-42 Section 11.19.2. 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. No fugitive dust controls are proposed for loading the feeders (1, 9), and material handling at the raw material source (RAW), storage pile (FPILE) or truck loading (TL). Water sprays and moisture carryover will control fugitive dust for Units 2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19.

Fugitive dust control for unloading the aggregate feeder (Unit 9) onto conveyors (Unit 10) will be controlled, as needed, with enclosures and/or water sprays at the exit of the feed bins. Fugitive dust control for the transfer conveyors (Units 3, 5, 6, 7, 12, 14, 16, 18) will be controlled with material moisture content and/or enclosure. It is estimated that these methods will control PM10 to an efficiency of 95.9 percent per AP42 Section 11.19.2, Figure 11.19.2-6. Additional emission reductions include limiting annual production rates.

Fugitive dust control for the plant crusher (Unit 2) will be controlled, as needed, with enclosures and/or water sprays. It is estimated that these methods will control PM10 to an efficiency of 77.7 percent for crushing operations per AP42 Section 11.19.2, Figure 11.19.2-4. Additional emission reductions include limiting annual production rates.

Fugitive dust control for the plant screens (Units 4 and 11) will be controlled, as needed, with enclosures and/or water sprays. It is estimated that these methods will control to an efficiency of 91.6 percent for screening operations per AP42 Section 11.19.2, Table 11.19.2-3. Additional emission reductions include limiting annual production rates.

Fugitive dust control for the stacker conveyor transfer to storage piles (Units 13, 15, 17 and 19) will be controlled with material moisture content and/or enclosure. It is estimated that the additional moisture during processing will increase the moisture content from the default of 2% to the high moisture content value found in footnote b of AP-42 Table 11.19.2-2, 2.88%. This will control fugitive emissions to an efficiency of 60 percent. Additional emission reductions include limiting annual production rates.

To estimate material handling control particulate emissions rates for crushing, screening, and conveyor transfer operations, emission factors were obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Aug. 2004, Section 11.19.2, Table 11.19.2-2.

To estimate material handling particulate emission rates for aggregate handling operations (mining/aggregate storage piles/loading feed bins/stacker drop to piles), an emission equation was obtained from EPA's Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources, Fifth Edition, Section 13.2.4 (11/2004), where the k (PM = 0.74, PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the maximum hourly emission rate is the

NMED default of 11 MPH and for determining annual emission rate is based on the average wind speed for Grants for the years of 2001 through 2011 of 8.3 mph, and the NMED default moisture content of 2 percent.

Mining, Aggregate Storage Piles and Feed Bin Loading Emission Equation:

Maximum Hour Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$

E_{PM} (lbs/ton) = 0.74 x 0.0032 x $(11/5)^{1.3}$ / $(2/2)^{1.4}$

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(11/5)^{1.3}$ / $(2/2)^{1.4}$

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(11/5)^{1.3}$ / $(2/2)^{1.4}$

E_{PM} (lbs/ton) = 0.00660 lbs/ton;

E_{PM10} (lbs/ton) = 0.00312 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.00047 lbs/ton

Aggregate Storage Pile Loading from Stacker Conveyor Emission Equation:

Maximum Hour Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$

E_{PM} (lbs/ton) = 0.74 x 0.0032 x $(11/5)^{1.3}$ / $(2.88/2)^{1.4}$

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(11/5)^{1.3}$ / $(2.88/2)^{1.4}$

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(11/5)^{1.3}$ / $(2.88/2)^{1.4}$

E_{PM} (lbs/ton) = 0.00396 lbs/ton;

E_{PM10} (lbs/ton) = 0.00187 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.00028 lbs/ton

Mining, Aggregate Storage Piles and Feed Bin Loading Emission Equation:

Annual Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$

E_{PM} (lbs/ton) = 0.74 x 0.0032 x $(8.3/5)^{1.3}$ / $(2/2)^{1.4}$

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(8.3/5)^{1.3}$ / $(2/2)^{1.4}$

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(8.3/5)^{1.3}$ / $(2/2)^{1.4}$

E_{PM} (lbs/ton) = 0.00458 lbs/ton;

E_{PM10} (lbs/ton) = 0.00216 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.00033 lbs/ton

Aggregate Storage Pile Loading from Stacker Conveyor Emission Equation:

Annual Emission Factor

E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$

E_{PM} (lbs/ton) = 0.74 x 0.0032 x $(8.3/5)^{1.3}$ / $(2.88/2)^{1.4}$

E_{PM10} (lbs/ton) = 0.35 x 0.0032 x $(8.3/5)^{1.3}$ / $(2.88/2)^{1.4}$

$E_{PM2.5}$ (lbs/ton) = 0.053 x 0.0032 x $(8.3/5)^{1.3}$ / $(2.88/2)^{1.4}$

E_{PM} (lbs/ton) = 0.00275 lbs/ton;

E_{PM10} (lbs/ton) = 0.00130 lbs/ton

$E_{PM2.5}$ (lbs/ton) = 0.00020 lbs/ton

AP-42 Emission Factors:

Feed Bin Unloading = Controlled Conveyor Transfer Point Emission Factor
Crusher = Controlled Tertiary Crusher Emission Factor
Screen = Controlled Screening Emission Factor
Transfer Conveyor = Controlled Conveyor Transfer Point Emission Factor

Material Handling Emission Factors:

Process Unit	PM Emission Factor (lbs/ton)	PM_{10} Emission Factor (lbs/ton)	$PM_{2.5}$ Emission Factor (lbs/ton)
Controlled Crushing	0.00120	0.00054	0.00010
Controlled Screening	0.00220	0.00074	0.00005
Controlled Feeder Unloading and Conveyor Transfers	0.00014	0.00005	0.000013
Mining, Aggregate Storage Piles, Feeder Loading Maximum Hourly	0.00660	0.00312	0.00047
Mining, Aggregate Storage Piles, Feeder Loading Annual Hourly	0.00458	0.00216	0.00033
Stacker Conveyor to Pile Maximum Hourly	0.00396	0.00187	0.00028
Stacker Conveyor to Pile Annual Hourly	0.00275	0.00130	0.00020

The following equation was used to calculate the hourly emission rate for each process unit:

Emission Rate (lbs/hour) = Process Rate (tons/hour) * Emission Factor (lbs/ton)

The following equation was used to calculate the annual emission rate for each process unit:

$$\text{Emission Rate (tons/year)} = \frac{\text{Hourly Emission Rate (lbs/ton)} * \text{Annual Throughput (tons/year)}}{\text{2000 lbs/ton}}$$

Table 6-2 Controlled Regulated Process Equipment Emission Rates

Unit #	Process Unit Description	Process Rate (tph)	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
RAW	Raw Material Pile	300	1.98	0.80	0.94	0.38	0.14	0.057
Main Plant								
1	Crushing Plant Feeder	300	1.98	0.80	0.94	0.38	0.14	0.057
2	Impact Crusher	300	0.36	0.21	0.16	0.095	0.030	0.018
3	Impact Crusher Under Conveyor	300	0.042	0.025	0.014	0.0081	0.0039	0.0023
4	Screen	300	0.66	0.39	0.22	0.13	0.015	0.0088
5	Screen Under Conveyor	300	0.042	0.025	0.014	0.0081	0.0039	0.0023
6	Screen Under Conveyor	60	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
7	Return Conveyor to Crushing Plant Feeder	60	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
9	Screening Plant Feeder	300	1.98	0.80	0.94	0.38	0.14	0.057
10	Feed Conveyor	300	0.042	0.025	0.014	0.0081	0.0039	0.0023
11	Screen	300	0.66	0.39	0.22	0.13	0.015	0.0088
12	Screen Under Conveyor	120	0.017	0.010	0.0055	0.0032	0.0016	0.00091
13	Stacker Conveyor to Pile	120	0.48	0.19	0.22	0.091	0.034	0.014
14	Screen Under Conveyor	60	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
15	Stacker Conveyor to Pile	60	0.24	0.10	0.11	0.045	0.017	0.0069
16	Screen Under Conveyor	60	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
17	Stacker Conveyor to Pile	60	0.24	0.10	0.11	0.045	0.017	0.0069
18	Screen Under Conveyor	60	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
19	Stacker Conveyor to Pile	60	0.24	0.10	0.11	0.045	0.017	0.0069
Finish Piles								
FPILE	Finish Pile	300	1.98	0.80	0.94	0.38	0.14	0.057
Truck Loading								
TL	Truck Loading	300	1.98	0.80	0.94	0.38	0.14	0.057
		Totals	**12.95**	**5.57**	**5.91**	**2.51**	**0.87**	**0.37**

Estimates for 416 hp (310 kW) Crushing Plant Diesel-Fired Engine (8) (NO_X, CO, SO_2, VOC, PM, and CO_2)

A 416 horsepower (hp), 310 kilowatt (kW) engine (Unit 8) provides power to the main crushing plant. Emission rates for NO_X, CO and NMHC are based on manufacturer pounds per hour emission factors (See Section 7). PM is estimated from manufactures emission data listed as g/hr and converted to lbs/hr (See Section 7). Sulfur dioxide (SO_2) emissions are estimated based on sulfur content of diesel fuel, not to exceed 15 ppm fuel content and a fuel usage rate of 20.6 gal/hr. CO_2 emission rates are found in EPA's "Emission Factors for Greenhouse Gas Inventories" (See Section 7). Uncontrolled annual emissions in tons per year (tpy) were calculated assuming daylight operation of 4380 hours per year. Controlled annual emissions in tons per year (tpy) were calculated assuming proposed operation of 3669 hours per year.

EPA Tier 4:

Pollutant	EPA Tier 4 Emission Factor (lbs/hr)
Nitrogen Oxide (NOx)	0.14
Carbon Monoxides (CO)	0.05
Particulate (PM)	0.003
Hydrocarbons (VOC)	0.01

Sulfur dioxide emission rate was calculated using the fuel consumption rate for this engine of 20.6 gallons per hour, a fuel density of 7.0 pounds per gallon, a fuel sulfur content of 15 PPM, and a sulfur to sulfur dioxide conversion factor of two (2). The following equation calculates the emission rate for sulfur dioxide (SO_2).

Emission Rate (lbs/hr) = Fuel (gal/hr) * Density lbs/gal * % Sulfur Content * Factor

$$\text{Emission Rate (lbs/hr)} = \frac{20.6 \text{ gallons}}{\text{hr}} \left| \frac{7.0 \text{ lbs}}{\text{gallon}} \right| \frac{0.000015 \text{ lbs Sulfur}}{\text{lbs of fuel}} \left| \frac{2 \text{ lbs Sulfur Dioxide}}{1 \text{ lb Sulfur}} \right.$$

Emission Rate (lbs/hr) = 0.004 lbs/hr

CO_2 emission rates are found in EPA's "Emission Factors for Greenhouse Gas Inventories" (February 13, 2024).

CO2 = 10.21 kg/gal (GWP = 1)
CH4 = 0.41 g/gal (GWP = 28)
N2O = 0.08 g/gal (GWP = 265)

PM Emission Rates were found in the manufactures emissions data listed as 1.1 g/hr. A conversion to lbs/hr was done by dividing 1.1 g/hr by 453.592 lbs as there are 453.59 grams in a lb:

PM Emission Rate (lbs/hr) = 1.1 (g/hr) / 453.592 lbs

The following equation was used to calculate the annual emission rate for each engine pollutant:

$$\text{Emission Rate (tons/year)} = \frac{\text{Emission Rate (lbs/hour)} * \text{Operating Hour (hrs/year)}}{2000 \text{ lbs/ton}}$$

Table 6-3: Uncontrolled Combustion Emission Rates

Process Unit Number	Pollutant	Engine Rating (hp/kW)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
8	NO_X	416/310	0.14	0.31
	CO	416/310	0.050	0.11
	SO_2	416/310	0.0043	0.0095
	VOC	416/310	0.010	0.022
	PM	416/310	0.0030	0.0066

Table 6-4: Controlled Combustion Emission Rates

Process Unit Number	Pollutant	Engine Rating (hp/kW)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
8	NO_X	416/310	0.14	0.26
	CO	416/310	0.050	0.092
	SO_2	416/310	0.0043	0.0079
	VOC	416/310	0.010	0.018
	PM	416/310	0.0030	0.0055

GHG emission rate hourly (lbs/hr) = Emission Factor * gallon/hour * GWP * 2.20462 lbs/kg or 0.0020462 lbs/g
GHG emission rate annual (tons/yr) = lbs/hr * annual hours/2000 lbs/ton

Table 6-5: Uncontrolled GHG Combustion Emission Rates

Process Unit Number	Pollutant	Emission Factor	Gallons/Hour	GWP (lbs/hr)	GHG Emission Rate (lbs/hr)	GHG Emission Rate (tons/yr)
8	CO_2	10.21 kg/gal	20.6	1	463.69	1015.48
	CH_4	0.41 g/gal	20.6	28	0.47	1.02
	N_2O	0.08 g/gal	20.6	265	1.08	2.37
	GHG				465.2	1018.9

Table 6-6: Controlled GHG Combustion Emission Rates

Process Unit Number	Pollutant	Emission Factor	Gallons/Hour	GWP (lbs/hr)	GHG Emission Rate (lbs/hr)	GHG Emission Rate (tons/yr)
8	CO_2	10.21 kg/gal	20.6	1	463.69	850.64
	CH_4	0.41 g/gal	20.6	28	0.47	0.85
	N_2O	0.08 g/gal	20.6	265	1.08	1.99
	GHG				465.2	853.5

Estimates for 225 hp Screening Plant Diesel-Fired Engine (20) (NO_X, CO, SO_2, VOC, PM, and CO_2)

A 225 horsepower (hp), 168 kilowatt (kW) engine (20) provides power to the screening plant. Emission rates for NO_X, CO, PM and NMHC are based on EPA Tier 4f emission factors (See Section 7). Sulfur dioxide (SO_2) emissions are estimated based on sulfur content of diesel fuel, not to exceed 15 ppm fuel content and a fuel usage rate of 11.6 gal/hr. CO_2 emission rates are found in EPA's "Emission Factors for Greenhouse Gas Inventories" (See Section 7). Uncontrolled annual emissions in tons per year (tpy) were calculated assuming daylight operation of 4380 hours per year. Controlled annual emissions in tons per year (tpy) were calculated assuming proposed operation of 3669 hours per year.

EPA Tier 4f:

Pollutant	EPA Tier 4f Emission Factor (grams/kW-hr)
Nitrogen Oxide (NOx)	0.40
Carbon Monoxides (CO)	3.50
Particulate (PM)	0.19
Hydrocarbons (VOC)	0.20

Emission Rate (lbs/hr) = Engine Rating (kW-hr) * Emission Factor (grams/kW) / 453.6 grams/lb

Sulfur dioxide emission rate was calculated using the fuel consumption rate for this engine of 11.6gallons per hour, a fuel density of 7.0 pounds per gallon, a fuel sulfur content of 15 PPM, and a sulfur to sulfur dioxide conversion factor of two (2). The following equation calculates the emission rate for sulfur dioxide (SO_2).

Emission Rate (lbs/hr) = Fuel (gal/hr) * Density lbs/gal * % Sulfur Content * Factor

$$\text{Emission Rate (lbs/hr)} = \frac{11.6 \text{ gallons}}{\text{hr}} \left| \frac{7.0 \text{ lbs}}{\text{gallon}} \right| \frac{0.000015 \text{ lbs Sulfur}}{\text{lbs of fuel}} \left| \frac{2 \text{ lbs Sulfur Dioxide}}{1 \text{ lb Sulfur}} \right.$$

Emission Rate (lbs/hr) = 0.0024 lbs/hr

CO_2 emission rates are found in EPA's "Emission Factors for Greenhouse Gas Inventories" (February 13, 2024).
CO2 = 10.21 kg/gal (GWP = 1)
CH4 = 0.41 g/gal (GWP = 28)
N2O = 0.08 g/gal (GWP = 265)

The following equation was used to calculate the annual emission rate for each engine pollutant:

$$\text{Emission Rate (tons/year)} = \frac{\text{Emission Rate (lbs/hour)} * \text{Operating Hour (hrs/year)}}{\text{2000 lbs/ton}}$$

Table 6-7: Uncontrolled Combustion Emission Rates

Process Unit Number	Pollutant	Engine Rating (hp/kW)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
20	NO_X	225/168	0.15	0.32
	CO	225/168	1.30	2.84
	SO_2	225/168	0.0024	0.0053
	VOC	225/168	0.070	0.15
	PM	225/168	0.074	0.16

Table 6-8: Controlled Combustion Emission Rates

Process Unit Number	Pollutant	Engine Rating (hp/kW)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
20	NO_X	225/168	0.15	0.27
	CO	225/168	1.30	2.38
	SO_2	225/168	0.0024	0.0045
	VOC	225/168	0.070	0.13
	PM	225/168	0.074	0.14

GHG emission rate hourly (lbs/hr) = Emission Factor * gallon/hour * GWP * 2.20462 lbs/kg or 0.0020462 lbs/g
GHG emission rate annual (tons/yr) = lbs/hr * annual hours/2000 lbs/ton

Table 6-9: Uncontrolled GHG Combustion Emission Rates

Process Unit Number	Pollutant	Emission Factor	Gallons/Hour	GWP (lbs/hr)	GHG Emission Rate (lbs/hr)	GHG Emission Rate (tons/yr)
20	CO_2	10.21 kg/gal	11.6	1	218.34	478.16
	CH_4	0.41 g/gal	11.6	28	0.22	0.48
	N_2O	0.08 g/gal	11.6	265	0.51	1.12
	GHG				219.1	479.8

Table 6-10: Controlled GHG Combustion Emission Rates

Process Unit Number	Pollutant	Emission Factor	Gallons/Hour	GWP (lbs/hr)	GHG Emission Rate (lbs/hr)	GHG Emission Rate (tons/yr)
20	CO_2	10.21 kg/gal	11.6	1	218.34	400.54
	CH_4	0.41 g/gal	11.6	28	0.22	0.40
	N_2O	0.08 g/gal	11.6	265	0.51	0.94
	GHG				219.1	401.9

Estimates for Truck Traffic ($PM_{2.5}$, PM_{10} and PM) (Unit ROAD) Uncontrolled

Haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. Table 6-11 summarizes the emission rate for the uncontrolled method.

$$E = k * (s/12)^a * (W/3)^b * [(365 - p)/365] * VMT$$

Where k = constant PM2.5 = 0.15
PM10 = 1.5
PM = 4.9
s = % silt content (Table 13.2.2-1, "Sand and Gravel" 4.8%)
W = mean vehicle weight (26.5 tons) (Truck Tare Weight - 15 tons; Load Weight - 23 tons)
p = number of days with at least 0.01 in of precip. (NMED Policy = 70 days)
a = Constant PM2.5 = 0.9
PM10 = 0.9
PM = 0.7
b = Constant PM2.5 = 0.45
PM10 = 0.45
PM = 0.45
VMT = Vehicle Miles Traveled Material In (road length = 0.25472 miles round trip)
VMT = Vehicle Miles Traveled Material Out (road length = 0.23176 miles round trip)
Trucks per hour In = 13 trucks/hr
Trucks per hour Out= 13 trucks/hr
Maximum In Trucks per year Uncontrolled = 57130 trucks/yr
Maximum Out Trucks per Year Uncontrolled = 57130 trucks/yr

Hourly Emission Rate Factor Uncontrolled
PM = 6.8769 lbs/VMT
PM10 = 1.7527 lbs/VMT
PM2.5 = 0.1753 lbs/VMT

Annual Emission Rate Factor Uncontrolled
PM = 5.5581 lbs/annual VMT
PM10 = 1.4165 lbs/annual VMT
PM2.5 = 0.1417 lbs/annual VMT

Table 6-11: Uncontrolled Haul Road Fugitive Dust Emission Rates

Process Unit Description	Miles Traveled	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
Haul Truck Travel In	3.32250 miles/hr 14553 miles/yr	22.85	40.44	5.82	10.31	0.58	1.03
Haul Truck Travel Out	3.02301 miles/hr 13241 miles/yr	20.79	36.80	5.30	9.38	0.53	0.94
	Total	**43.64**	**77.24**	**11.12**	**19.69**	**1.11**	**1.97**

Estimates for Truck Traffic ($PM_{2.5}$, PM_{10} and PM) (Unit ROAD) Allowable

Haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. Haul roads for the aggregate crushing and screening plant use base course and watering as the control method (80% control efficiency allowed). Maximum total number of round trip haul trucks per day is 70. Table 6-12 summarizes the emission rate for the control method.

$$E = k * (s/12)^{a} * (W/3)^{b} * [(365 - p)/365] * VMT$$

Where k = constant PM2.5 = 0.15
PM10 = 1.5
PM = 4.9
s = % silt content (Table 13.2.2-1, "Sand and Gravel" 4.8%)
W = mean vehicle weight (26.5 tons) (Truck Tare Weight - 15 tons; Load Weight - 23 tons)
p = number of days with at least 0.01 in of precip. (NMED Policy = 70 days)
a = Constant PM2.5 = 0.9
PM10 = 0.9
PM = 0.7
b = Constant PM2.5 = 0.45
PM10 = 0.45
PM = 0.45
Control Efficiency is 80% based on base course and watering
VMT = Vehicle Miles Traveled Material In (road length = 0.25472 miles round trip)
VMT = Vehicle Miles Traveled Material Out (road length = 0.23176 miles round trip)
Trucks per hour In = 5 trucks/hr
Trucks per hour Out= 5 trucks/hr
Maximum In Trucks per year Controlled = 15217 trucks/yr
Maximum Out Trucks per Year Controlled = 15217 trucks/yr

Fugitive dust control will include base course and watering for 80% control (NMED Policy). Reduction in emissions due to precipitation was only accounted for in the annual emission rate. Particulate emission rate per vehicle mile traveled for each particle size category is:

Hourly Emission Rate Factor with Base Course and Watering 80% Control
PM = 1.3754 lbs/VMT
PM10 = 0.3505 lbs/VMT
PM2.5 = 0.0351 lbs/VMT

Annual Emission Rate Factor with Base Course and Watering 80% Control
PM = 1.1116 lbs/annual VMT
PM10 = 0.2833 lbs/annual VMT
PM2.5 = 0.0283 lbs/annual VMT

Table 6-12: Controlled Haul Road Fugitive Dust Emission Rates

Process Unit Description	Miles Traveled	PM Emission Rate (lbs/hr)	PM Emission Rate (tons/yr)	PM_{10} Emission Rate (lbs/hr)	PM_{10} Emission Rate (tons/yr)	$PM_{2.5}$ Emission Rate (lbs/hr)	$PM_{2.5}$ Emission Rate (tons/yr)
Haul Truck Travel In Base Course and Watering	1.27363 miles/hr 3876 miles/yr	1.75	2.15	0.45	0.55	0.045	0.055
Haul Truck Travel Out Base Course and Watering Out	1.15882 miles/hr 3527 miles/yr	1.59	1.96	0.41	0.50	0.041	0.50
	Total	**3.35**	**4.11**	**0.85**	**1.05**	**0.085**	**0.10**

Table 6-13 Summary of Uncontrolled NOx, CO, SO2, VOC, and PM Emission Rates

Uncontrolled Emission Totals															
Unit #	Description	NOx		CO		SO_2		VOC		PM		PM_{10}		$PM_{2.5}$	
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
RAW	Raw Material Pile	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22
Main Plant															
1	Crushing Plant Feeder	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22
2	Impact Crusher	-	-	-	-	-	-	-	-	1.62	3.55	0.72	1.58	0.13	0.29
3	Impact Crusher Conveyor	-	-	-	-	-	-	-	-	0.90	1.97	0.33	0.72	0.10	0.21
4	Screen	-	-	-	-	-	-	-	-	7.50	16.43	2.61	5.72	0.18	0.39
5	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.90	1.97	0.33	0.72	0.098	0.21
6	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.020	0.043
7	Return Conveyor to Crusher	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.020	0.043
8	Crushing Plant Engine	0.14	0.31	0.050	0.11	0.010	0.022	0.0043	0.0095	0.0030	0.0066	0.0030	0.0066	0.0030	0.0066
9	Screen Plant Feeder	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22
10	Feeder Conveyor	-	-	-	-	-	-	-	-	0.90	1.97	0.33	0.72	0.10	0.21
11	Screen	-	-	-	-	-	-	-	-	7.50	16.43	2.61	5.72	0.18	0.39
12	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.36	0.79	0.13	0.29	0.039	0.085
13	Stacker Conveyor	-	-	-	-	-	-	-	-	0.79	1.20	0.37	0.57	0.057	0.068
14	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.020	0.043
15	Stacker Conveyer	-	-	-	-	-	-	-	-	0.40	0.60	0.19	0.28	0.28	0.043
16	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.20	0.043
17	Stacker Conveyor	-	-	-	-	-	-	-	-	0.40	0.60	0.19	0.28	0.28	0.043

Table 6-13 Summary of Uncontrolled NOx, CO, SO2, VOC, and PM Emission Rates

Uncontrolled Emission Totals															
Unit #	Description	NOx		CO		SO_2		VOC		PM		PM_{10}		$PM_{2.5}$	
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
18	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.18	0.39	0.066	0.14	0.20	0.043
19	Screen Conveyor to Cone Crusher	-	-	-	-	-	-	-	-	0.40	0.60	0.19	0.28	0.28	0.043
20	Screen Plant Engine	0.15	0.32	1.30	2.84	0.070	0.15	0.0024	0.0053	0.074	0.16	0.074	0.16	0.074	0.16
TL	Truck Loading	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22
FPILE	Finish Pile	-	-	-	-	-	-	-	-	1.98	3.01	0.94	1.42	0.14	0.22
ROAD	Haul Road	-	-	-	-	-	-	-	-	43.64	77.24	11.12	19.69	1.11	1.97
	Total	**0.29**	**0.63**	**1.35**	**2.95**	**0.080**	**0.17**	**0.0067**	**0.015**	**82.13**	**149.55**	**27.047**	**48.80**	**4.49**	**6.094**

Table 6-14 Summary of Requested Allowable NOx, CO, SO2, VOC, and PM Emission Rates

Allowable Emission Totals															
Unit #	Description	NOx		CO		SO_2		VOC		PM		PM_{10}		$PM_{2.5}$	
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
RAW	Raw Material Pile	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057
Main Plant															
1	Crushing Plant Feeder	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057
2	Impact Crusher	-	-	-	-	-	-	-	-	0.36	0.21	0.16	0.095	0.030	0.018
3	Impact Crusher Conveyor	-	-	-	-	-	-	-	-	0.042	0.025	0.014	0.0081	0.0039	0.0023
4	Screen	-	-	-	-	-	-	-	-	0.66	0.39	0.22	0.13	0.015	0.0088
5	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.042	0.025	0.014	0.0081	0.0039	0.0023
6	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
7	Return Conveyor to Crusher	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
8	Crushing Plant Engine	0.14	0.26	0.050	0.092	0.0043	0.0079	0.010	0.018	0.0030	0.0055	0.0030	0.0055	0.0030	0.0055
9	Screen Plant Feeder	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057
10	Feeder Conveyor	-	-	-	-	-	-	-	-	0.042	0.025	0.014	0.0081	0.0039	0.0023
11	Screen	-	-	-	-	-	-	-	-	0.66	0.39	0.22	0.13	0.015	0.0088
12	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.017	0.010	0.0055	0.0032	0.0016	0.0009
13	Stacker Conveyor	-	-	-	-	-	-	-	-	0.48	0.19	0.22	0.091	0.034	0.014
14	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
15	Stacker Conveyer	-	-	-	-	-	-	-	-	0.24	0.10	0.11	0.045	0.017	0.0069
16	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046

Table 6-14 Summary of Requested Allowable NOx, CO, SO2, VOC, and PM Emission Rates

Allowable Emission Totals															
Unit #	Description	NOx		CO		SO_2		VOC		PM		PM_{10}		$PM_{2.5}$	
		lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr	lbs/hr	tons/yr
17	Stacker Conveyor	-	-	-	-	-	-	-	-	0.24	0.10	0.11	0.045	0.017	0.0069
18	Screen Under Conveyor	-	-	-	-	-	-	-	-	0.0084	0.0049	0.0028	0.0016	0.00078	0.00046
19	Screen Conveyor to Cone Crusher	-	-	-	-	-	-	-	-	0.24	0.10	0.11	0.045	0.017	0.0069
20	Screen Plant Engine	0.15	0.27	1.30	2.38	0.0024	0.0045	0.070	0.13	0.074	0.14	0.074	0.14	0.074	0.14
TL	Truck Loading	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057
FPILE	Finish Pile	-	-	-	-	-	-	-	-	1.98	0.80	0.94	0.38	0.14	0.057
ROAD	Haul Road	-	-	-	-	-	-	-	-	3.35	4.11	0.85	1.05	0.085	0.10
	Total	**0.29**	**0.53**	**1.35**	**2.47**	**0.0068**	**0.012**	**0.080**	**0.15**	**16.38**	**9.83**	**6.84**	**3.70**	**1.03**	**0.61**

Estimates for Federal HAPs Air Pollutants

The Crushing Plant engine (Unit 8) and Screening Plant engine (Unit 20) are source of HAPs as it appears in Section 112 (b) of the 1990 CAAA. Emissions of HAPs were determined for Unit 8 and Unit 20 engines using AP-42 Section 3.3 and Section 1.3.

The following tables summarize the HAPs emission rates from the Crushing Plant engine (Unit 8) and Screening Plant engine (Unit 20). Combined totals for HAPs for the whole facility are 0.027 pounds per hour and 0.049 tons per year.

Table 6-15: HAPs Emission Rates from the Crushing Plant Engine (Unit 8)

Horsepower Rating:	416	horsepower	
Fuel Usage:	20.6	gallons/hr	
MMBtu/hr:	2.6368	Btu	(based on 128000 Btu/gallon)
Btu x 10^-12/hr:	2.6368E-06	Btu x10^-12	(based on 128000 Btu/gallon)
Yearly Operating Hours:	3669	hours per year	

Type of Fuel: Diesel
Emission Factors AP-42 Section 3.3 and Section 1.3

Non-PAH HAPS	CAS#	Emission Factor (lbs/mmBtu)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Acetaldehyde	75-07-0	7.67E-04	0.002022	0.003710
Acrolein	107-02-8	9.25E-05	0.000244	0.000447
Benzene	71-43-2	9.33E-04	0.002460	0.004513
1,3-Butadiene	106-99-0	3.91E-05	0.000103	0.000189
Formaldehyde	50-00-0	1.18E-03	0.003111	0.005708
Propylene	115-07-1	2.58E-03	0.006803	0.012480
Toluene	108-88-3	4.09E-04	0.001078	0.001978
Xylene	1330-20-7	2.85E-04	0.000751	0.001379
	Total Non-PAH HAPS	6.29E-03	0.016574	0.030405

PAH HAPS	CAS#	Emission Factor (lbs/mmBtu)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Acenaphthene	83-32-9	1.42E-06	0.000004	0.000007
Acenaphthylene	208-96-8	5.06E-06	0.000013	0.000024
Anthracene	120-12-7	1.87E-06	0.000005	0.000009
Benzo(a)anthracene	56-55-3	1.68E-06	0.000004	0.000008
Benzo(a)pyrene	50-32-8	1.88E-07	0.000000	0.000001
Benzo(b)fluoranthene	205-99-2	9.91E-08	0.000000	0.000000
Benzo(a)pyrene	192-97-2	1.55E-07	0.000000	0.000001
Benzo(g,h,I)perylene	191-24-2	4.89E-07	0.000001	0.000002
Benzo(k)fluoranthene	207-08-9	1.55E-07	0.000000	0.000001
Dibenz(a,h)anthracene		5.83E-07	0.000002	0.000003
Chrysene	218-01-9	3.53E-07	0.000001	0.000002
Fluoranthene	206-44-0	7.61E-06	0.000020	0.000037
Fluorene	86-73-7	2.92E-05	0.000077	0.000141
Indeno(1,2,3-cd)pyrene	193-39-5	3.75E-07	0.000001	0.000002
Naphthalene	91-20-3	8.48E-05	0.000224	0.000410
Phenanthrene	85-01-8	2.94E-05	0.000078	0.000142
Pyrene	129-00-0	4.78E-06	0.000013	0.000023
	Total PAH HAPS	1.68E-04	0.000444	0.000814

HAPS Metals		Emission Factor (lbs/Btu^12)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Arsenic		4	0.000011	0.000019
Beryllium		3	0.000008	0.000015
Cadmium		3	0.000008	0.000015
Chromium		3	0.000008	0.000015
Lead		9	0.000024	0.000044
Manganese		6	0.000016	0.000029
Mercury		3	0.000008	0.000015
Nickel		3	0.000008	0.000015
Selenium		15	0.000040	0.000073
	Total Metals HAPS	49	0.000129	0.000237
	Total HAPS		**0.01715**	**0.03146**

Table 6-16: HAPs Emission Rates from the Screening Plant Engine (20)

Horsepower Rating:	225	horsepower	
Fuel Usage:	11.6	gallons/hr	
MMBtu/hr:	1.4848	Btu	(based on 128000 Btu/gallon)
Btu x 10^-12/hr:	1.4848E-06	Btu x10^-12	(based on 128000 Btu/gallon)
Yearly Operating Hours:	3669	hours per year	

Type of Fuel: Diesel
Emission Factors AP-42 Section 3.3 and Section 1.3

Non-PAH HAPS	CAS#	Emission Factor (lbs/mmBtu)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Acetaldehyde	75-07-0	7.67E-04	0.001139	0.002089
Acrolein	107-02-8	9.25E-05	0.000137	0.000252
Benzene	71-43-2	9.33E-04	0.001385	0.002541
1,3-Butadiene	106-99-0	3.91E-05	0.000058	0.000107
Formaldehyde	50-00-0	1.18E-03	0.001752	0.003214
Propylene	115-07-1	2.58E-03	0.003831	0.007028
Toluene	108-88-3	4.09E-04	0.000607	0.001114
Xylene	1330-20-7	2.85E-04	0.000423	0.000776
	Total Non-PAH HAPS	6.29E-03	0.009333	0.017121

PAH HAPS	CAS#	Emission Factor (lbs/mmBtu)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Acenaphthene	83-32-9	1.42E-06	0.000002	0.000004
Acenaphthylene	208-96-8	5.06E-06	0.000008	0.000014
Anthracene	120-12-7	1.87E-06	0.000003	0.000005
Benzo(a)anthracene	56-55-3	1.68E-06	0.000002	0.000005
Benzo(a)pyrene	50-32-8	1.88E-07	0.000000	0.000001
Benzo(b)fluoranthene	205-99-2	9.91E-08	0.000000	0.000000
Benzo(a)pyrene	192-97-2	1.55E-07	0.000000	0.000000
Benzo(g,h,I)perylene	191-24-2	4.89E-07	0.000001	0.000001
Benzo(k)fluoranthene	207-08-9	1.55E-07	0.000000	0.000000
Dibenz(a,h)anthracene		5.83E-07	0.000001	0.000002
Chrysene	218-01-9	3.53E-07	0.000001	0.000001
Fluoranthene	206-44-0	7.61E-06	0.000011	0.000021
Fluorene	86-73-7	2.92E-05	0.000043	0.000080
Indeno(1,2,3-cd)pyrene	193-39-5	3.75E-07	0.000001	0.000001
Naphthalene	91-20-3	8.48E-05	0.000126	0.000231
Phenanthrene	85-01-8	2.94E-05	0.000044	0.000080
Pyrene	129-00-0	4.78E-06	0.000007	0.000013
	Total PAH HAPS	1.68E-04	0.000250	0.000458

HAPS Metals		Emission Factor (lbs/Btu^12)	Emission Rate (lbs/hr)	Emission Rate (ton/yr)
Arsenic		4	0.000006	0.000011
Beryllium		3	0.000004	0.000008
Cadmium		3	0.000004	0.000008
Chromium		3	0.000004	0.000008
Lead		9	0.000013	0.000025
Manganese		6	0.000009	0.000016
Mercury		3	0.000004	0.000008
Nickel		3	0.000004	0.000008
Selenium		15	0.000022	0.000041
	Total Metals HAPS	49	0.000073	0.000133
	Total HAPS		**0.00966**	**0.01771**

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 (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Calculating GHG Emissions:

1. Calculate the ton per year (tpy) GHG mass emissions and GHG CO_2e 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 CO_2e 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 CO_2e 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 X 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 CO_2 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)

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.

A-XXXX-7-AP42S1-3	Diesel-Fired Engine HAPs Emission Factors
A-XXXX-7-AP42S3-3	Diesel-Fired Engine HAPs Emission Factors
A-XXXX-7-AP42S11-19-2	Crusher, Screen and Transfer Point Emission Factors
A-XXXX-7-AP42S13-2-2	Unpaved Road Emission Factors
A-XXXX-7-AP42S13-2-4	Material Handling Emission Factors
A-XXXX-7-WindspeedGrants	Grants/Milan Airport Wind Speed Average
A-XXXX-7-Unit8	Unit 8: Crushing Plant Engine
A-XXXX-7-Unit20	Unit 20: Screening Plant Engine
A-XXXX-7-EPA_GHG	EPA's "Emission Factors for Greenhouse Gas Inventories" (February 13, 2024)
A-XXXX-7-CrusherEI.xls	Strickland Crusher Plant Emissions Spreadsheet (Electronic File)

1.3 Fuel Oil Combustion

1.3.1 General[1-3]

Two major categories of fuel oil are burned by combustion sources: distillate oils and residual oils. These oils are further distinguished by grade numbers, with Nos. 1 and 2 being distillate oils; Nos. 5 and 6 being residual oils; and No. 4 being either distillate oil or a mixture of distillate and residual oils. No. 6 fuel oil is sometimes referred to as Bunker C. Distillate oils are more volatile and less viscous than residual oils. They have negligible nitrogen and ash contents and usually contain less than 0.3 percent sulfur (by weight). Distillate oils are used mainly in domestic and small commercial applications, and include kerosene and diesel fuels. Being more viscous and less volatile than distillate oils, the heavier residual oils (Nos. 5 and 6) may need to be heated for ease of handling and to facilitate proper atomization. Because residual oils are produced from the residue remaining after the lighter fractions (gasoline, kerosene, and distillate oils) have been removed from the crude oil, they contain significant quantities of ash, nitrogen, and sulfur. Residual oils are used mainly in utility, industrial, and large commercial applications.

1.3.2 Firing Practices[4]

The major boiler configurations for fuel oil-fired combustors are watertube, firetube, cast iron, and tubeless design. Boilers are classified according to design and orientation of heat transfer surfaces, burner configuration, and size. These factors can all strongly influence emissions as well as the potential for controlling emissions.

Watertube boilers are used in a variety of applications ranging from supplying large amounts of process steam to providing space heat for industrial facilities. In a watertube boiler, combustion heat is transferred to water flowing through tubes which line the furnace walls and boiler passes. The tube surfaces in the furnace (which houses the burner flame) absorb heat primarily by radiation from the flames. The tube surfaces in the boiler passes (adjacent to the primary furnace) absorb heat primarily by convective heat transfer.

Firetube boilers are used primarily for heating systems, industrial process steam generators, and portable power boilers. In firetube boilers, the hot combustion gases flow through the tubes while the water being heated circulates outside of the tubes. At high pressures and when subjected to large variations in steam demand, firetube units are more susceptible to structural failure than watertube boilers. This is because the high-pressure steam in firetube units is contained by the boiler walls rather than by multiple small-diameter watertubes, which are inherently stronger. As a consequence, firetube boilers are typically small and are used primarily where boiler loads are relatively constant. Nearly all firetube boilers are sold as packaged units because of their relatively small size.

A cast iron boiler is one in which combustion gases rise through a vertical heat exchanger and out through an exhaust duct. Water in the heat exchanger tubes is heated as it moves upward through the tubes. Cast iron boilers produce low pressure steam or hot water, and generally burn oil or natural gas. They are used primarily in the residential and commercial sectors.

Another type of heat transfer configuration used on smaller boilers is the tubeless design. This design incorporates nested pressure vessels with water in between the shells. Combustion gases are fired into the inner pressure vessel and are then sometimes recirculated outside the second vessel.

Table 1.3-9. EMISSION FACTORS FOR SPECIATED ORGANIC COMPOUNDS FROM FUEL OIL COMBUSTION[a]

Organic Compound	Average Emission Factor[b] ($lb/10^3$ Gal)	EMISSION FACTOR RATING
Benzene	2.14E-04	C
Ethylbenzene	6.36E-05[c]	E
Formaldehyde[d]	3.30E-02	C
Naphthalene	1.13E-03	C
1,1,1-Trichloroethane	2.36E-04[c]	E
Toluene	6.20E-03	D
o-Xylene	1.09E-04[c]	E
Acenaphthene	2.11E-05	C
Acenaphthylene	2.53E-07	D
Anthracene	1.22E-06	C
Benz(a)anthracene	4.01E-06	C
Benzo(b,k)fluoranthene	1.48E-06	C
Benzo(g,h,i)perylene	2.26E-06	C
Chrysene	2.38E-06	C
Dibenzo(a,h) anthracene	1.67E-06	D
Fluoranthene	4.84E-06	C
Fluorene	4.47E-06	C
Indo(1,2,3-cd)pyrene	2.14E-06	C
Phenanthrene	1.05E-05	C
Pyrene	4.25E-06	C
OCDD	3.10E-09[c]	E

[a] Data are for residual oil fired boilers, Source Classification Codes (SCCs) 1-01-004-01/04.
[b] References 64-72. To convert from $lb/10^3$ gal to $kg/10^3$ L, multiply by 0.12.
[c] Based on data from one source test (Reference 67).
[d] The formaldehyde number presented here is based only on data from utilities using No. 6 oil. The number presented in Table 1.3-7 is based on utility, commercial, and industrial boilers.

Table 1.3-10. EMISSION FACTORS FOR TRACE ELEMENTS FROM DISTILLATE FUEL OIL COMBUSTION SOURCES[a]

EMISSION FACTOR RATING: E

Firing Configuration (SCC)	Emission Factor (lb/10^{12} Btu)										
	As	Be	Cd	Cr	Cu	Pb	Hg	Mn	Ni	Se	Zn
Distillate oil fired (1-01-005-01, 1-02-005-01, 1-03-005-01)	4	3	3	3	6	9	3	6	3	15	4

[a] Data are for distillate oil fired boilers, SCC codes 1-01-005-01, 1-02-005-01, and 1-03-005-01. References 29-32, 40-44 and 83. To convert from lb/10^{12} Btu to pg/J, multiply by 0.43.

Table 1.3-11. EMISSION FACTORS FOR METALS FROM UNCONTROLLED NO. 6 FUEL OIL COMBUSTION[a]

Metal	Average Emission Factor[b, d] ($lb/10^3$ Gal)	EMISSION FACTOR RATING
Antimony	5.25E-03[c]	E
Arsenic	1.32E-03	C
Barium	2.57E-03	D
Beryllium	2.78E-05	C
Cadmium	3.98E-04	C
Chloride	3.47E-01	D
Chromium	8.45E-04	C
Chromium VI	2.48E-04	C
Cobalt	6.02E-03	D
Copper	1.76E-03	C
Fluoride	3.73E-02	D
Lead	1.51E-03	C
Manganese	3.00E-03	C
Mercury	1.13E-04	C
Molybdenum	7.87E-04	D
Nickel	8.45E-02	C
Phosphorous	9.46E-03	D
Selenium	6.83E-04	C
Vanadium	3.18E-02	D
Zinc	2.91E-02	D

[a] Data are for residual oil fired boilers, Source Classification Codes (SCCs) 1-01-004-01/04.

[b] References 64-72. 18 of 19 sources were uncontrolled and 1 source was controlled with low efficiency ESP. To convert from $lb/10^3$ gal to $kg/10^3$ L, multiply by 0.12.

[c] References 29-32,40-44.

[d] For oil/water mixture, reduce factors in proportion to water content of the fuel (due to dilution). To adjust the listed values for water content, multiply the listed value by 1-decimal fraction of water (ex: For fuel with 9 percent water by volume, multiply by 1-0.9=.91).

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	0.439	62.7	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 CO_2 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.

11.19.2 Crushed Stone Processing and Pulverized Mineral Processing

11.19.2.1 Process Description [24, 25]

Crushed Stone Processing

Major rock types processed by the crushed stone industry include limestone, granite, dolomite, traprock, sandstone, quartz, and quartzite. Minor types include calcareous marl, marble, shell, and slate. Major mineral types processed by the pulverized minerals industry, a subset of the crushed stone processing industry, include calcium carbonate, talc, and barite. Industry classifications vary considerably and, in many cases, do not reflect actual geological definitions.

Rock and crushed stone products generally are loosened by drilling and blasting and then are loaded by power shovel or front-end loader into large haul trucks that transport the material to the processing operations. Techniques used for extraction vary with the nature and location of the deposit. Processing operations may include crushing, screening, size classification, material handling and storage operations. All of these processes can be significant sources of PM and PM-10 emissions if uncontrolled.

Quarried stone normally is delivered to the processing plant by truck and is dumped into a bin. A feeder is used as illustrated in Figure 11.19.2-1. The feeder or screens separate large boulders from finer rocks that do not require primary crushing, thus reducing the load to the primary crusher. Jaw, impactor, or gyratory crushers are usually used for initial reduction. The crusher product, normally 7.5 to 30 centimeters (3 to 12 inches) in diameter, and the grizzly throughs (undersize material) are discharged onto a belt conveyor and usually are conveyed to a surge pile for temporary storage or are sold as coarse aggregates.

The stone from the surge pile is conveyed to a vibrating inclined screen called the scalping screen. This unit separates oversized rock from the smaller stone. The undersized material from the scalping screen is considered to be a product stream and is transported to a storage pile and sold as base material. The stone that is too large to pass through the top deck of the scalping screen is processed in the secondary crusher. Cone crushers are commonly used for secondary crushing (although impact crushers are sometimes used), which typically reduces material to about 2.5 to 10 centimeters (1 to 4 inches). The material (throughs) from the second level of the screen bypasses the secondary crusher because it is sufficiently small for the last crushing step. The output from the secondary crusher and the throughs from the secondary screen are transported by conveyor to the tertiary circuit, which includes a sizing screen and a tertiary crusher.

Tertiary crushing is usually performed using cone crushers or other types of impactor crushers. Oversize material from the top deck of the sizing screen is fed to the tertiary crusher. The tertiary crusher output, which is typically about 0.50 to 2.5 centimeters (3/16th to 1 inch), is returned to the sizing screen. Various product streams with different size gradations are separated in the screening operation. The products are conveyed or trucked directly to finished product bins, to open area stock piles, or to other processing systems such as washing, air separators, and screens and classifiers (for the production of manufactured sand).

Some stone crushing plants produce manufactured sand. This is a small-sized rock product with a maximum size of 0.50 centimeters (3/16 th inch). Crushed stone from the tertiary sizing screen is sized in a vibrating inclined screen (fines screen) with relatively small mesh sizes.

Oversized material is processed in a cone crusher or a hammermill (fines crusher) adjusted to produce small diameter material. The output is returned to the fines screen for resizing.

In certain cases, stone washing is required to meet particulate end product specifications or demands.

Pulverized Mineral Processing

Pulverized minerals are produced at specialized processing plants. These plants supply mineral products ranging from sizes of approximately 1 micrometer to more than 75 micrometers aerodynamic diameter. Pharmaceutical, paint, plastics, pigment, rubber, and chemical industries use these products. Due to the specialized characteristics of the mineral products and the markets for these products, pulverized mineral processing plants have production rates that are less than 5% of the production capacities of conventional crushed stone plants. Two alternative processing systems for pulverized minerals are summarized in Figure 11-19.2-2.

In dry processing systems, the mineral aggregate material from conventional crushing and screening operations is subject to coarse and fine grinding primarily in roller mills and/or ball mills to reduce the material to the necessary product size range. A classifier is used to size the ground material and return oversized material that can be pulverized using either wet or dry processes. The classifier can either be associated with the grinding operation, or it can be a stand-alone process unit. Fabric filters control particulate matter emissions from the grinding operation and the classifier. The products are stored in silos and are shipped by truck or in bags.

In wet processing systems, the mineral aggregate material is processed in wet mode coarse and fine grinding operations. Beneficiation processes use flotation to separate mineral impurities. Finely ground material is concentrated and flash dried. Fabric filters are used to control particulate matter emissions from the flash dryer. The product is then stored in silos, bagged, and shipped.

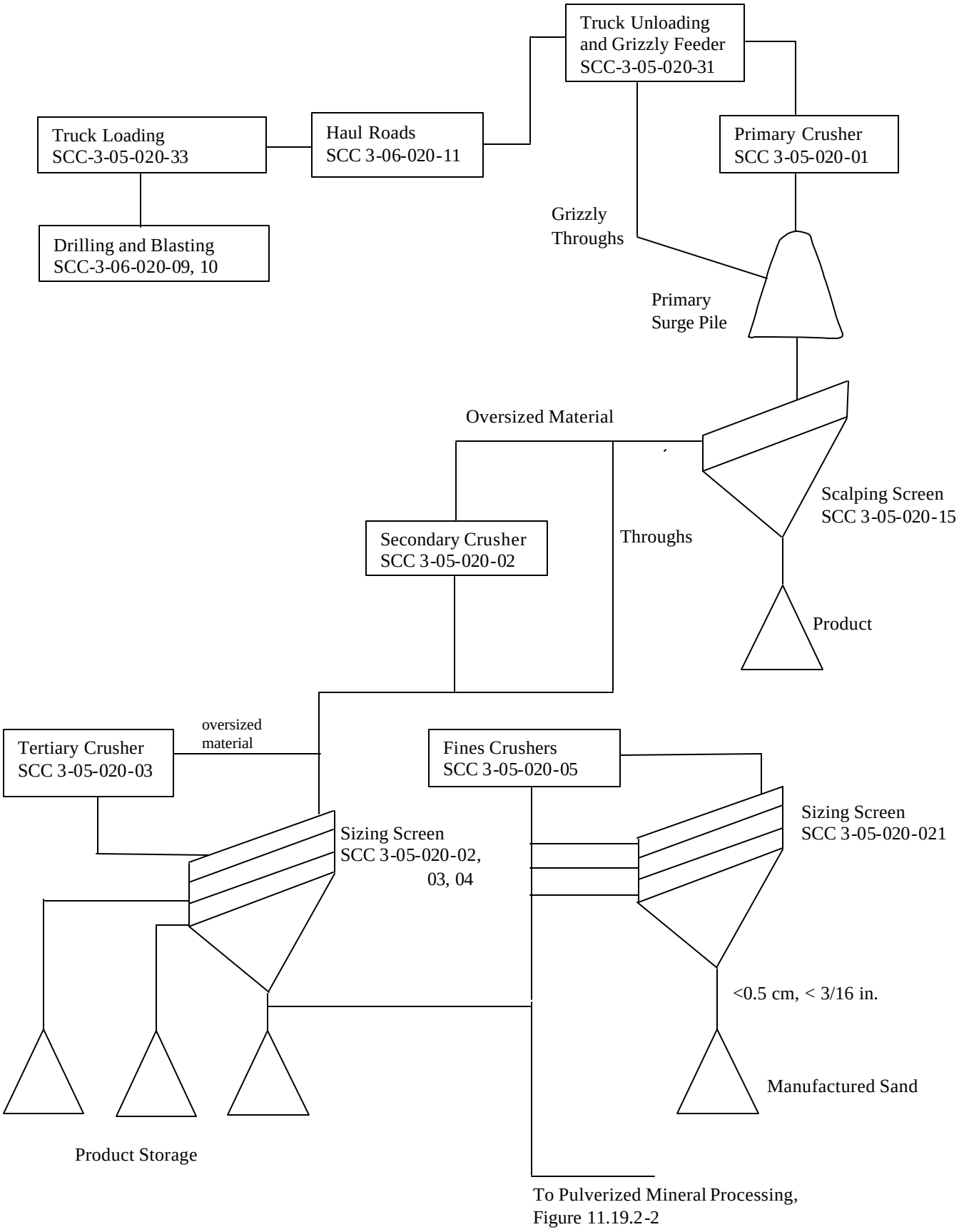


Figure 11.19.2-1. Typical stone processing plant

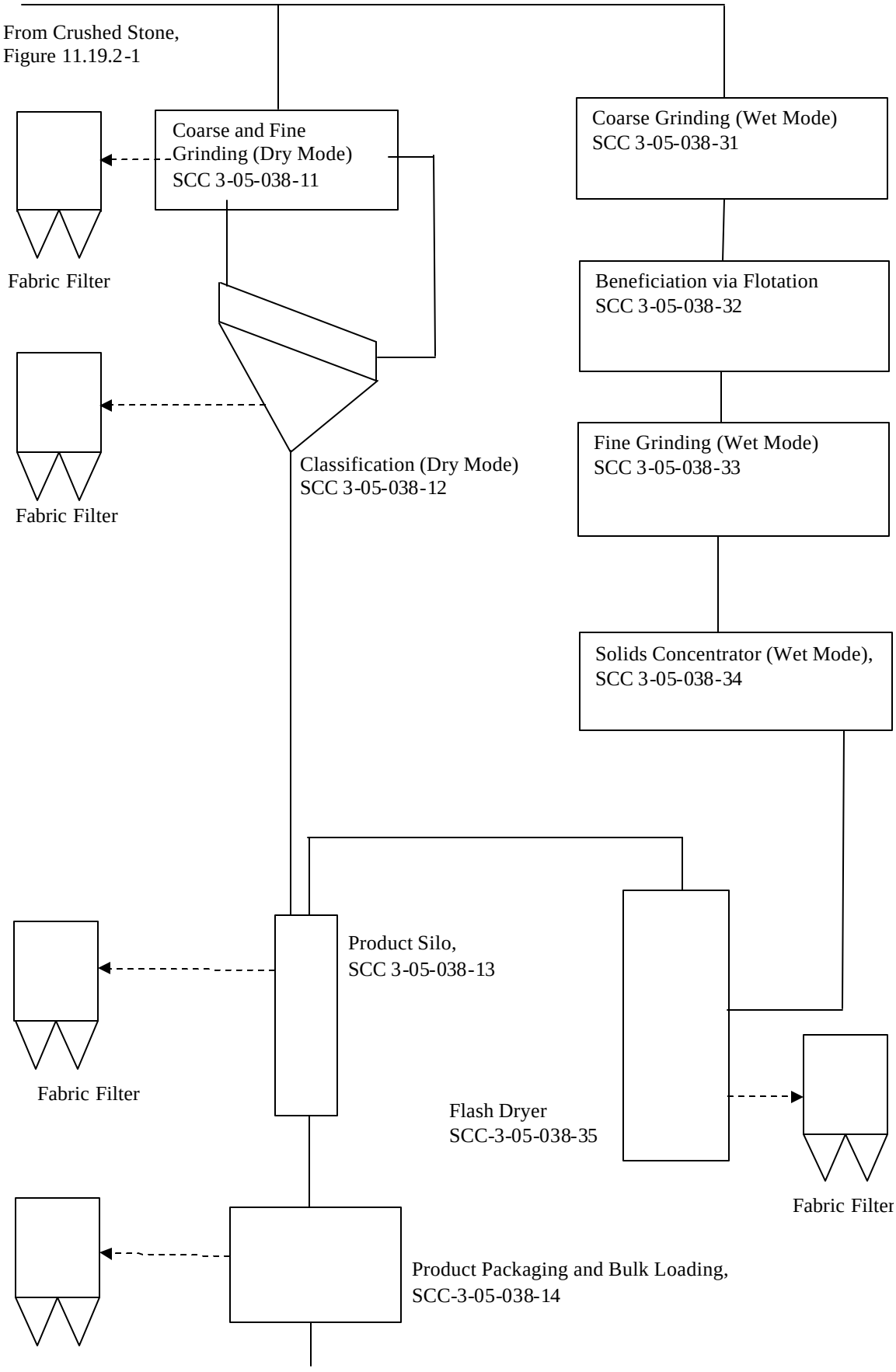


Figure 11.19.2-2 Flowchart for Pulverized Mineral Processing

11.19.2.2 Emissions and Controls [10, 11, 12, 13, 14, and 26]

Crushed Stone Processing

Emissions of PM, PM-10, and PM-2.5 occur from a number of operations in stone quarrying and processing. A substantial portion of these emissions consists of heavy particles that may settle out within the plant. As in other operations, crushed stone emission sources may be categorized as either process sources or fugitive dust sources. Process sources include those for which emissions are amenable to capture and subsequent control. Fugitive dust sources generally involve the reentrainment of settled dust by wind or machine movement. Emissions from process sources should be considered fugitive unless the sources are vented to a baghouse or are contained in an enclosure with a forced-air vent or stack. Factors affecting emissions from either source category include the stone size distribution and the surface moisture content of the stone processed, the process throughput rate, the type of equipment and operating practices used, and topographical and climatic factors.

Of graphical and seasonal factors, the primary variables affecting uncontrolled PM emissions are wind and material moisture content. Wind parameters vary with geographical location, season, and weather. It can be expected that the level of emissions from unenclosed sources (principally fugitive dust sources) will be greater during periods of high winds. The material moisture content also varies with geographical location, season, and weather. Therefore, the levels of uncontrolled emissions from both process emission sources and fugitive dust sources generally will be greater in arid regions of the country than in temperate ones and greater during the summer months because of a higher evaporation rate.

The moisture content of the material processed can have a substantial effect on emissions. This effect is evident throughout the processing operations. Surface wetness causes fine particles to agglomerate on or to adhere to the faces of larger stones, with a resulting dust suppression effect. However, as new fine particles are created by crushing and attrition and as the moisture content is reduced by evaporation, this suppressive effect diminishes and may disappear. Plants that use wet suppression systems (spray nozzles) to maintain relatively high material moisture contents can effectively control PM emissions throughout the process. Depending on the geographical and climatic conditions, the moisture content of mined rock can range from nearly zero to several percent. Because moisture content is usually expressed on a basis of overall weight percent, the actual moisture amount per unit area will vary with the size of the rock being handled. On a constant mass-fraction basis, the per-unit area moisture content varies inversely with the diameter of the rock. The suppressive effect of the moisture depends on both the absolute mass water content and the size of the rock product. Typically, wet material contains >1.5 percent water.

A variety of material, equipment, and operating factors can influence emissions from crushing. These factors include (1) stone type, (2) feed size and distribution, (3) moisture content, (4) throughput rate, (5) crusher type, (6) size reduction ratio, and (7) fines content. Insufficient data are available to present a matrix of rock crushing emission factors detailing the above classifications and variables. Available data indicate that PM-10 and PM-2.5 emissions from limestone and granite processing operations are similar. Therefore, the emission factors developed from the emissions data gathered at limestone and granite processing facilities are considered to be representative of typical crushed stone processing operations. Emission factors for filterable PM, PM-10, and PM-2.5 emissions from crushed stone processing operations are presented in Tables 11.19.2-1 (Metric units) and 11.19.2-2 (English units.)

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	2.3×10^{-5}[i]	D	6.5×10^{-6}[q]	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		4.0×10^{-5}[j]	E	ND	
Truck Unloading - Fragmented Stone (SCC 3-05-020-31)	ND		8.0×10^{-6}[j]	E	ND	
Truck Unloading - Conveyor, crushed stone (SCC 3-05-020-32)	ND		5.0×10^{-5}[k]	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.

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[t]	E	4.6×10^{-5}[t]	D	1.3×10^{-5}[q]	E
Wet Drilling - Unfragmented Stone (SCC 3-05-020-10)	ND		8.0×10^{-5}[j]	E	ND	
Truck Unloading -Fragmented Stone (SCC 3-05-020-31)	ND		1.6×10^{-5}[j]	E	ND	
Truck Unloading - 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.

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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.

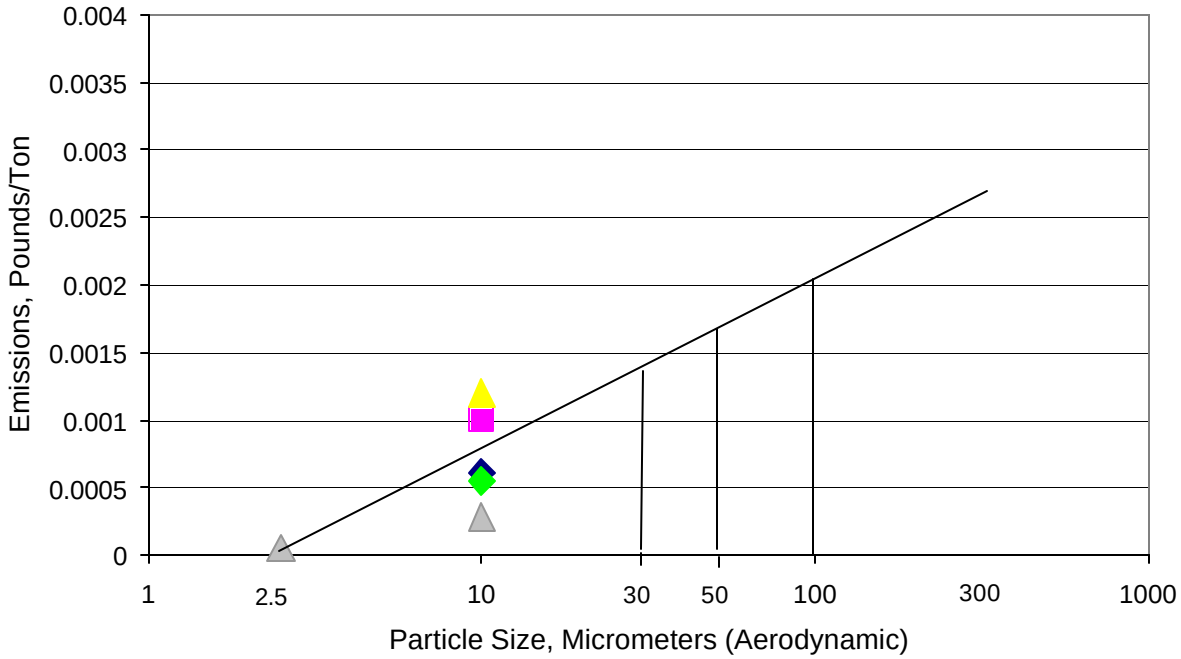


Figure 11-19-3. PM Emission Factor Calculation, Screening (Controlled)

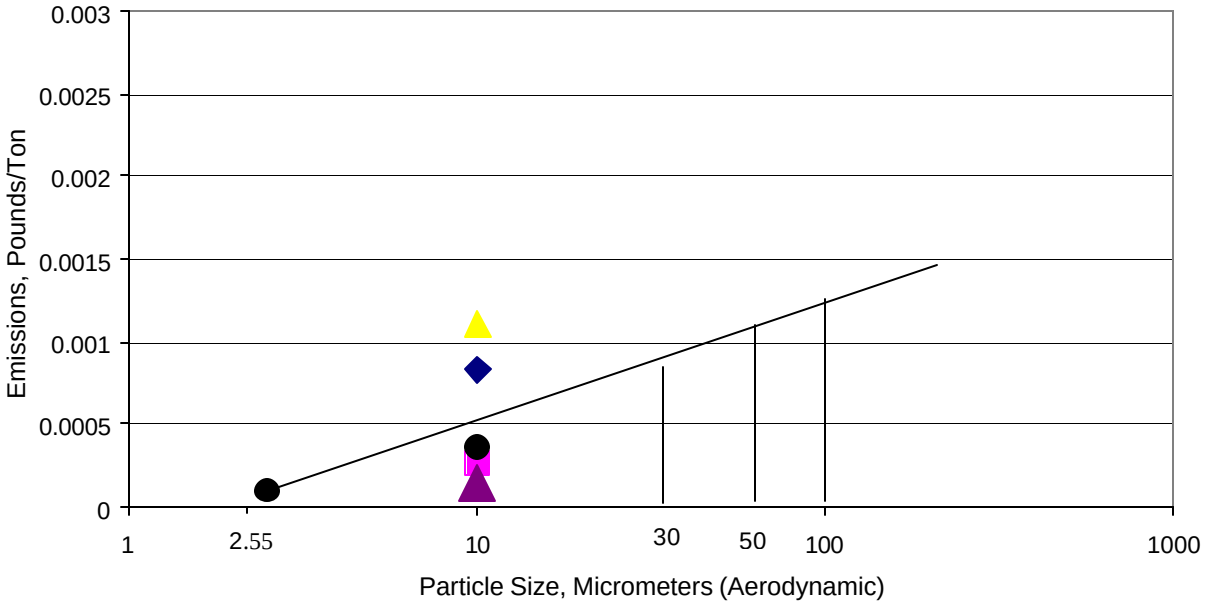


Figure 11.19-4. PM Emission Factor Calculation, Tertiary Crushing (Controlled)

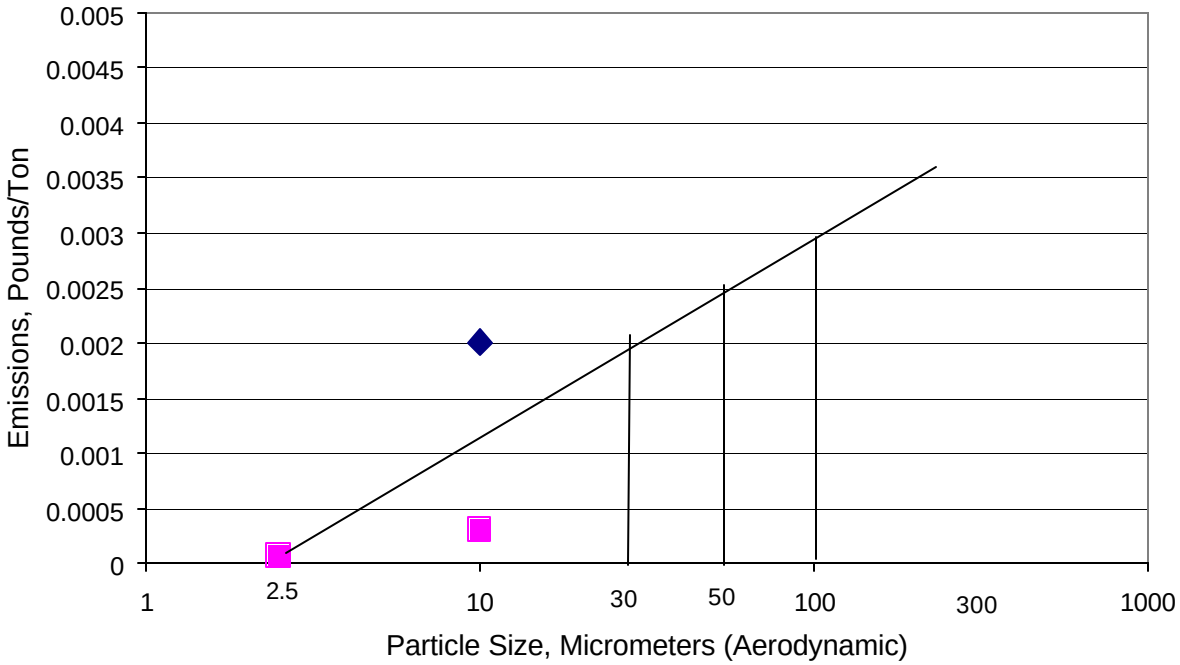


Figure 11-19.5. PM Emission Factor Calculation, Fines Crushing (Controlled)

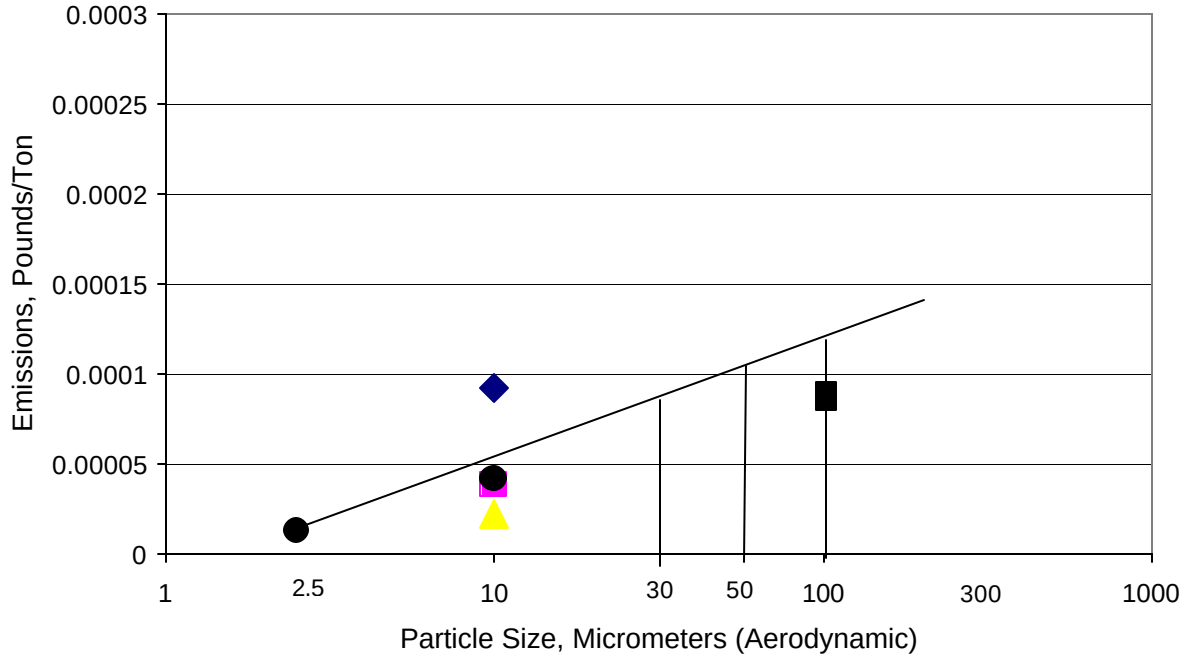


Figure 11.19-6. PM Emission Factor Calculation, Conveyor Transfer Points (Controlled)

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.

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 material[25]. 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 MOBILE6.2 [24]. 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 Parameters[1-6]

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

[a]References 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:

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

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

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

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 lb/VMT = 281.9 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

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 Controls[12-13]

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]

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NEW MEXICO

STATION	Years	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
ALBUQUERQUE INTL SUNPORT AP (KABQ)	2001-2011	7.0	7.7	8.8	10.4	9.7	9.2	8.1	7.7	7.5	7.3	7.1	6.7	8.1
CARLSBAD-CAVERN CITY AP (KCNM)	2001-2011	8.7	9.7	10.6	11.4	10.1	9.7	7.9	7.2	7.6	8.1	8.3	8.4	9.0
CLAYTON MUNICIPAL AIRPARK AP (KCAO)	2001-2011	11.8	12.3	13.0	14.5	13.4	12.8	11.5	11.1	11.7	12.0	12.4	11.9	12.4
CLINES CORNERS (KCQC)	2001-2011	15.9	15.9	15.7	16.7	14.3	13.0	10.0	10.1	11.2	13.4	14.8	16.3	14.0
DEMING MUNICIPAL AIRPORT (KDMN)	2001-2011	8.1	9.0	9.8	11.0	10.0	9.3	7.9	7.1	7.4	7.4	7.6	7.7	8.5
FARMINGTON-FOUR CORNERS AP (KFMN)	2001-2011	6.6	7.6	8.6	9.8	9.0	8.7	8.1	7.5	7.4	7.3	7.2	7.0	7.9
GALLUP MUNICIPAL AIRPORT (KGUP)	2001-2011	5.1	6.6	8.1	10.5	9.2	8.6	6.6	5.9	6.1	6.1	5.8	5.5	7.0
GRANTS-MILAN MUNI AIRPORT (KGNT)	2001-2011	7.6	8.3	9.2	10.6	9.6	9.0	7.7	6.9	7.4	7.7	7.9	7.5	8.3
LAS VEGAS MUNICIPAL ARPT (KLVS)	2001-2011	10.2	11.6	12.0	14.0	12.5	11.6	9.2	9.1	10.0	10.3	10.7	10.6	11.0
RATON MUNI/CREWS FIELD APT (KRTN)	2001-2011	8.1	9.0	9.9	11.9	10.9	10.0	8.0	7.8	8.2	8.7	8.4	8.1	9.1
ROSWELL INTERNATIONAL AP (KROW)	2001-2011	7.2	8.5	9.5	10.6	9.9	10.0	8.3	7.5	7.7	7.6	7.4	7.0	8.4
SANTA FE MUNICIPAL AIRPORT (KSAF)	2001-2011	8.7	8.7	9.4	10.6	10.3	9.6	8.4	8.1	8.1	8.3	8.3	8.3	8.9
TRUTH OR CONSEQUENCES AP (KTCS)	2001-2011	7.1	8.4	9.6	10.6	10.0	9.2	7.4	7.1	7.0	7.6	7.5	6.9	8.2
TUCUMCARI MUNICIPAL ARPT (KTCC)	2001-2011	9.7	10.4	11.4	13.1	11.8	11.6	9.5	9.2	9.7	9.9	10.3	10.1	10.6

A-XXXX-7-Unit8

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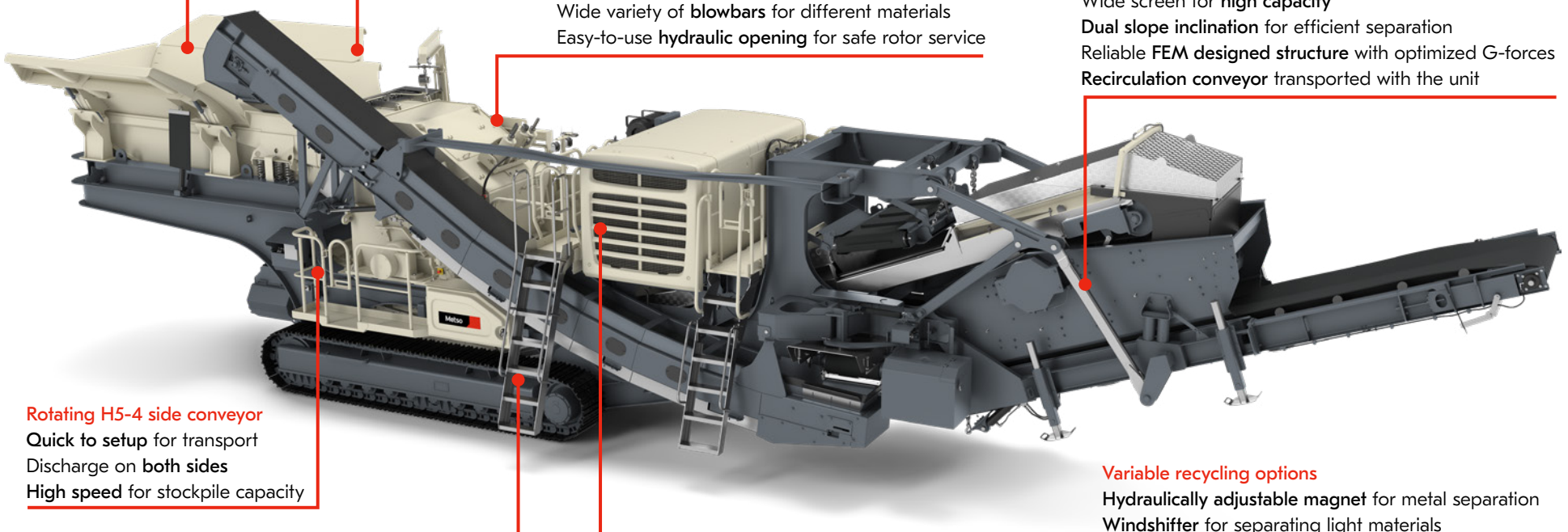
Lokotrack LT1213S mobile horizontal impact crushers (HSI) combines mobility, high capacity and versatility. It is suitable for a various applications such as limestone processing and recycled materials crushing. LT1213S includes high capacity dual-slope screen and return conveyor for additional calibrated end-products.

Hydraulically foldable hopper
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Rotating H5-4 side conveyor
Quick to setup for transport
Discharge on **both sides**
High speed for stockpile capacity

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Agile tracks with **2-speed mode** for turnability and speed

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Direct drive for crusher with purposely designed gearbox and hydraulic clutch for high reliability
Optimized **hydraulics efficiency**
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Windshifter for separating light materials
Pan feeder under crusher for improved material flow

IC process control for connectivity
Radio remote for feeder control and tracking
Remote IC app for improved safety and productivity
Metso Metrics for remote process monitoring

Technical specifications

Transport dimensions		
Weight	52,300 kg	115,000 lbs
Length	19,400 mm	64'
Width	3,200 mm	10' 6"
Height	3,630 mm	11' 11"
Feeder	**TK11-42**	
Hopper volume	6 / 9 m^3	7.8 / 11.8 yd^3
Width	1,100 mm	43"
Loading height	3,800 mm	12' 6"
Loading width	2,600 / 3,600 mm	8' 6" / 11' 10"
Screen	**DS16-36**	
Decks	1	1
Area	5.8 m^2	6.9 yd^2
Dimensions	1,520 x 3,780 mm	5' 0" x 12' 5"
Return conveyor	H12-7	H12-7
Side conveyor	**H5-4**	
Width	500 mm	20"
Length	4,000 mm	13' 2"
Discharge height	1,450 mm	4' 9"
Crusher	**Nordberg® NP1213M™**	
Feed opening	1,320 x 990 mm	52" x 39"
Drive type	Direct	Direct
Process control	IC	IC
Main conveyor	**H12-11 / H12-14**	
Width	1,200 mm	3' 11"
Length	11,000 / 14,000 mm	36' 1" / 45' 11"
Discharge height	2,950 / 4,000 mm	9' 8" / 13' 1"
Power unit	**CAT® C9.3B**	
Power	310 kW	416 hp
Fuel /hydr.oil vol.	630 / 215 l	166 / 57 gal

Options

- Additional service platform
- Bypass filter for lubrication/ hydraulic oil
- Climate kit (hot/cold)
- Dischage hood for conveyors
- Dust encapsulation for conveyors
- Extended main conveyor
- Feed hopper extensions
- Filter kit
- Fuel filling pump
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- Interlocking cable
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- Pan feeder under crusher
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- Remote radio control
- Screen module
- Side conveyor
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- LT200HP cone crusher

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Serial Number (Engine)	**NGH04046**
Sales Model	C9.3B
Regulatory Build Date	28-MAR-2022
As Shipped Data	
Engine Arrangement Number	5395436
Certification Arrangement	3611820
Test Spec Number	5526640
Regulatory Status	IMO Compliant
Regulatory Status	EPA / ARB / EU / R120 / MLIT / Korea
Labeled Model Year	2022
EPA Family Code	NCPXL09.3NTF
EPA Emissions Level	EPA TIER 4f
EU Emissions Level	EU STAGE V
EU Type Approval	e24*2016/1628*2018/989EV6/D*0014
Korea Type Approval	C9.3B(CE9.3D6)//18EN*CA*01
UN R120 Type Approval	120R-000006
As-Shipped Flash File	6211868
CORR FL Power at RPM	421 HP (314.0 KW)2200 RPM
Advertised Power	416 HP 2,200RPM
Total Displacement	9.3 L

Disclaimer: The information provided has been compiled from third party sources and is accurate to the best of Caterpillar's knowledge. However, Caterpillar cannot guarantee the accuracy, completeness, or validity of the information and is not liable for any errors or omissions contained therein. All information provided should be independently verified and confirmed, including by examining the emissions label located on the engine.

Need emission replacement label? Click here!

Caterpillar Confidential: **Green**
Content Owner: Commercial Processes Division
Web Master(s): PSG Web Based Systems Support
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ENGINE TEST [NGH04046]

(NGH04046)-ENGINE (CZS260163A)-CEM (PET196682M)-PETU

MAY 15, 2025

For Help Desk Phone Numbers Click here

Sales Model: C9.3B
TMI Load Date: 26Mar2022
Built Date: 19Jan2022
Shipped Date: 25Apr2022
Plant: Seguin

Tested Date: 25Mar2022
Tested: HZ
Cell Number:

Show 50 **entries** **Search:**

Test Element	Eng Updates	Test Value	Test Spec Value	Measure
Spec Number		5526640	5526640	
Arrangement Number		5395436	5395436	
Corr Fl Power		433	421	HP
Speed		2,200	2,200	RPM
COR FL FUEL RATE		21.0	21.0	GAL/HR
CSFC		0.343	0.349	LB/HP-HR
Adj Boost		63.7	63.5	IN HG
Fuel Pressure		114	116	PSI
Oil Pressure		59	54	PSI
TQ COR FUEL RATE		17.1	16.9	GAL/HR
TQ CK CSFC		0.315	0.314	LB/HP-HR
TQ CK ADJ BST		65.4	64.9	IN HG
Torq Ck Speed		1,400	1,400	RPM
TQ CK COR TQ		1,443	1,413	LB.FT
Low Idle Speed		599	600	RPM
Low Idle Oil Pressure		18	17	PSI
High Idle Speed		2,420	2,420	RPM
FL Static Fuel Setting		0.762	0.762	IN
FT Static Fuel Setting		0.998	0.998	IN
Full Load Setting(FLS) Intercept	-5	0	0	
Full Torque Setting(FTS) Slope	-10	0	0	
Exhaust Back Pressure		5.86	5.86	PSI
TQ CK Exhaust Back Pressure		3.06	3.07	PSI
Ataac Delta Pressure		1.42	1.44	PSI

Showing 1 to 24 of 24 entries

Previous 1 Next

	Value	Unit
Advertised Power	416	HP
Advertised Speed	2,200	RPM

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Web Master(s): PSG Web Based Systems Support
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PERFORMANCE DATA [NGH04046]

(NGH04046)-ENGINE (CZS260163A)-CEM (PET196682M)-PETU

MAY 15, 2025

For Help Desk Phone Numbers Click here

Perf No: EM2777 **Change Level:** 01

General Heat Rejection Sound Emissions Regulatory Altitude Derate Cross Reference Perf Param Ref

View PDF

SALES MODEL:	C9.3B	**COMBUSTION:**	DIRECT INJECTION
BRAND:	CAT	**ENGINE SPEED (RPM):**	2,200
MACHINE SALES MODEL:		**PEAK TORQUE SPEED (RPM):**	1,400
ENGINE POWER (BHP):	416	**TORQUE RISE (%):**	41
PEAK TORQUE (FT-LB):	1,404.3	**ASPIRATION:**	TA
COMPRESSION RATIO:	17	**AFTERCOOLER TYPE:**	ATAAC
RATING LEVEL:	C-RATING	**AFTERCOOLER CIRCUIT TYPE:**	JW+OC, ATAAC
PUMP QUANTITY:	1	**INLET MANIFOLD AIR TEMP (F):**	122
FUEL TYPE:	DIESEL	**JACKET WATER TEMP (F):**	192.2
MANIFOLD TYPE:	DRY	**TURBO CONFIGURATION:**	SINGLE
GOVERNOR TYPE:	ELEC	**TURBO QUANTITY:**	1
CAMSHAFT TYPE:	STANDARD	**TURBOCHARGER MODEL:**	GTB4088/0.84 - A/R
IGNITION TYPE:	CI	**CERTIFICATION YEAR:**	2017
INJECTOR TYPE:	CR	**PISTON SPD @ RATED ENG SPD (FT/MIN):**	2,150.9
REF EXH STACK DIAMETER (IN):	4		
MAX OPERATING ALTITUDE (FT):	7,080		

INDUSTRY	SUB INDUSTRY	APPLICATION
INDUSTRIAL	GENERAL INDUSTRIAL	INDUSTRIAL
INDUSTRIAL	MATERIAL HANDLING	INDUSTRIAL
INDUSTRIAL	CONSTRUCTION	INDUSTRIAL
INDUSTRIAL	MINING	INDUSTRIAL
INDUSTRIAL	AGRICULTURE	INDUSTRIAL
INDUSTRIAL	INDUSTRIAL POWER UNIT	INDUSTRIAL
OIL AND GAS	WELL SERVICING	INDUSTRIAL
OIL AND GAS	LAND PRODUCTION	INDUSTRIAL
INDUSTRIAL	FORESTRY	INDUSTRIAL

General Performance Data Top

Note(s)

INLET MANIFOLD AIR TEMPERATURE ("INLET MFLD TEMP") FOR THIS CONFIGURATION IS MEASURED AT THE OUTLET OF THE AFTERCOOLER.

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)
RPM	BHP	LB-FT	PSI	LB/BHP-HR	LB/BHP-HR	GAL/HR	GAL/HR
2,200	416	992	264	0.351	0.348	20.6	20.4
2,100	416	1,040	277	0.346	0.342	20.2	20.1
2,000	416	1,092	291	0.341	0.338	20.0	19.8
1,900	416	1,149	306	0.335	0.332	19.6	19.5
1,800	416	1,213	323	0.331	0.328	19.4	19.2
1,700	408	1,260	335	0.327	0.324	18.8	18.6
1,600	399	1,308	348	0.323	0.320	18.2	18.0
1,500	387	1,354	360	0.319	0.316	17.4	17.2
1,400	374	1,404	374	0.317	0.314	16.7	16.6
1,300	331	1,335	355	0.314	0.311	14.6	14.5
1,200	289	1,266	337	0.313	0.310	12.8	12.6

ENGINE SPEED	ENGINE POWER	ENGINE TORQUE	BRAKE MEAN EFF PRES (BMEP)	BRAKE SPEC FUEL CONSUMPTN (BSFC)	ISO BRAKE SPEC FUEL CONSUMPTN (BSFC)	VOL FUEL CONSUMPTN (VFC)	ISO VOL FUEL CONSUMPTN (VFC)
1,100	251	1,197	319	0.315	0.312	11.1	11.0
1,000	209	1,099	292	0.318	0.315	9.4	9.3
900	171	1,000	266	0.327	0.324	7.9	7.8
800	137	902	240	0.358	0.354	6.9	6.8
700	101	754	201	0.378	0.375	5.3	5.3
600	69.4	607	162	0.361	0.357	3.5	3.5

ENGINE SPEED	ENGINE POWER	INLET MFLD PRES	INLET MFLD TEMP	EXH MFLD TEMP	EXH MFLD PRES	ENGINE OUTLET TEMP	COMPRESSOR OUTLET PRES	COMPRESSOR OUTLET TEMP
RPM	BHP	IN-HG	DEG F	DEG F	IN-HG	DEG F	IN-HG	DEG F
2,200	416	60.8	121.9	1,174.0	99.2	850.6	65	402.9
2,100	416	65.1	122.4	1,148.6	100.9	820.5	69	409.3
2,000	416	67.2	122.1	1,152.8	97.4	827.0	71	408.1
1,900	416	68.4	121.0	1,156.4	92.8	834.0	72	406.9
1,800	416	69.5	120.8	1,162.7	88.1	843.6	73	406.4
1,700	408	69.6	121.9	1,161.0	81.2	848.5	73	400.5
1,600	399	68.8	121.5	1,169.4	74.2	862.6	71	396.3
1,500	387	66.7	120.8	1,180.3	66.2	881.8	69	389.7
1,400	374	64.6	121.3	1,204.8	58.9	914.9	67	386.1
1,300	331	54.7	121.4	1,195.6	45.3	939.8	56	358.0
1,200	289	46.3	116.6	1,190.0	35.4	964.8	48	331.6
1,100	251	38.9	118.3	1,196.4	27.2	994.9	40	304.1
1,000	209	30.3	114.7	1,189.2	19.6	1,021.0	31	266.8
900	171	23.6	114.2	1,187.6	14.5	1,051.4	24	235.8
800	137	15.8	112.2	1,118.7	9.5	1,026.9	16	185.8
700	101	10.0	112.0	1,030.2	6.1	961.7	10	152.6
600	69.4	7.1	113.7	998.6	4.0	927.4	7	138.3

ENGINE SPEED	ENGINE POWER	WET INLET AIR VOL FLOW RATE	ENGINE OUTLET WET EXH GAS VOL FLOW RATE	WET INLET AIR MASS FLOW RATE	WET EXH GAS MASS FLOW RATE	WET EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)	DRY EXH VOL FLOW RATE (32 DEG F AND 29.98 IN HG)
RPM	BHP	CFM	CFM	LB/HR	LB/HR	FT3/MIN	FT3/MIN
2,200	416	924.6	1,659.1	4,036.0	4,181.8	622.6	570.4
2,100	416	926.6	1,637.8	4,042.2	4,186.0	629.0	577.0
2,000	416	904.0	1,621.3	3,935.1	4,076.9	619.5	567.7
1,900	416	875.8	1,597.5	3,804.4	3,943.7	607.2	555.7
1,800	416	846.6	1,576.6	3,668.1	3,805.7	594.8	543.5
1,700	408	807.4	1,542.9	3,483.1	3,616.4	579.9	529.1
1,600	399	760.4	1,501.6	3,267.9	3,396.9	558.4	508.3
1,500	387	704.5	1,445.2	3,013.1	3,136.6	529.7	480.7
1,400	374	645.3	1,388.1	2,750.7	2,869.5	496.5	448.8
1,300	331	538.6	1,229.8	2,282.4	2,386.1	432.0	388.8
1,200	289	453.2	1,086.7	1,912.9	2,003.4	375.1	336.3
1,100	251	374.4	943.9	1,575.4	1,654.3	319.1	284.6
1,000	209	296.7	782.4	1,245.7	1,312.3	259.8	230.2
900	171	238.0	652.1	997.8	1,053.8	212.2	187.1
800	137	186.8	514.5	782.2	831.2	170.2	148.1
700	101	142.5	378.4	596.4	634.3	130.9	113.7
600	69.4	109.1	281.4	456.2	481.2	99.7	88.1

Heat Rejection Data Top

ENGINE SPEED	ENGINE POWER	REJECTION TO JACKET WATER	REJECTION TO ATMOSPHERE	REJECTION TO EXH	EXHAUST RECOVERY TO 350F	FROM OIL COOLER	FROM AFTERCOOLER	WORK ENERGY	LOW HEAT VALUE ENERGY	HIGH HEAT VALUE ENERGY
RPM	BHP	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN	BTU/MIN

ENGINE SPEED	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ	10000 HZ
1,000	209	65.3	64.2	62.8	61.3	59.1	58.6	57.9	62.1	57.1	57.6	64.9
900	171	62.1	60.5	58.8	57.6	55.9	55.6	55.7	61.7	56.7	57.5	65.0
800	137	59.0	56.8	54.8	54.0	52.7	52.6	53.5	61.4	56.2	57.4	65.0
700	101	58.8	57.2	55.5	55.1	54.5	55.7	54.7	61.1	56.3	57.6	64.7
600	69.4	58.6	57.6	56.1	56.3	56.2	58.7	55.8	60.9	56.5	57.7	64.3

MECHANICAL:SOUND POWER(1/3 Octave Frequencies)

ENGINE SPEED	ENGINE POWER	OVERALL SOUND	100 HZ	125 HZ	160 HZ	200 HZ	250 HZ	315 HZ	400 HZ	500 HZ	630 HZ	800 HZ
RPM	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
2,200	416	113.8	80.4	90.3	86.0	87.8	89.2	90.8	92.0	97.2	98.9	100.3
2,100	416	113.0	79.9	85.9	86.6	86.2	88.7	89.9	92.8	97.0	98.9	99.7
2,000	416	112.2	79.3	81.4	87.3	84.7	88.2	89.1	93.6	96.9	98.8	99.1
1,900	416	111.3	76.2	83.5	87.6	84.9	87.3	87.8	92.0	95.3	97.2	97.6
1,800	416	110.4	73.2	85.6	87.9	85.0	86.4	86.5	90.3	93.8	95.5	96.1
1,700	408	109.3	73.5	87.5	85.9	82.9	85.8	85.2	90.3	93.2	95.4	95.6
1,600	399	108.4	73.7	89.5	84.0	80.8	85.2	83.9	90.3	92.6	95.3	95.1
1,500	387	106.8	73.1	85.3	82.0	81.4	83.9	83.0	87.8	90.4	93.2	93.5
1,400	374	105.2	72.5	81.0	80.1	82.1	82.5	82.1	85.3	88.2	91.1	91.9
1,300	331	104.4	71.6	78.3	79.3	80.5	82.6	81.7	85.2	87.5	90.8	91.5
1,200	289	103.6	70.6	75.5	78.4	78.9	82.7	81.2	85.1	86.7	90.6	91.1
1,100	251	102.7	70.6	75.6	79.4	79.1	81.8	80.4	84.1	86.1	89.4	90.1
1,000	209	103.0	70.0	81.3	79.4	78.8	82.5	80.6	82.9	85.3	89.1	88.7
900	171	102.4	67.4	77.0	79.5	79.1	80.9	79.9	82.9	86.3	89.2	89.6
800	137	101.9	64.7	72.8	79.5	79.4	79.4	79.1	82.9	87.2	89.2	90.5
700	101	102.6	63.9	74.2	80.4	78.6	79.0	84.7	83.4	86.1	89.8	90.3
600	69.4	103.4	63.1	75.6	81.4	77.8	78.5	90.3	83.8	85.0	90.4	90.1

MECHANICAL:SOUND POWER(1/3 Octave Frequencies)

ENGINE SPEED	ENGINE POWER	1000 HZ	1250 HZ	1600 HZ	2000 HZ	2500 HZ	3150 HZ	4000 HZ	5000 HZ	6300 HZ	8000 HZ	10000 HZ
RPM	BHP	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)
2,200	416	108.4	105.2	105.6	103.3	102.2	100.3	98.7	98.3	96.4	95.0	92.3
2,100	416	107.3	104.9	104.8	102.2	101.1	99.4	98.0	97.5	95.6	94.1	91.5
2,000	416	106.1	104.7	104.0	101.1	100.0	98.6	97.3	96.7	94.8	93.2	90.8
1,900	416	105.5	104.1	102.4	100.1	99.3	97.6	96.2	95.7	93.7	92.5	89.9
1,800	416	104.8	103.5	100.9	99.1	98.6	96.6	95.1	94.8	92.6	91.9	89.0
1,700	408	104.2	102.0	99.2	97.8	97.5	95.6	93.7	93.5	91.2	90.6	87.8
1,600	399	103.6	100.5	97.6	96.5	96.4	94.6	92.4	92.3	89.8	89.3	86.6
1,500	387	101.5	98.9	96.3	95.6	95.2	93.6	91.5	91.6	88.9	88.6	86.1
1,400	374	99.5	97.3	95.1	94.6	94.0	92.7	90.6	91.0	88.0	87.8	85.6
1,300	331	99.1	95.7	94.5	93.2	92.9	91.5	89.8	90.0	87.3	87.1	85.0
1,200	289	98.7	94.1	93.9	91.8	91.9	90.3	88.9	89.0	86.5	86.4	84.3
1,100	251	97.2	93.3	92.7	91.3	91.4	89.5	88.4	88.9	86.1	85.8	83.5
1,000	209	97.7	94.6	92.6	92.5	92.0	90.5	87.8	89.5	85.3	84.7	82.4
900	171	96.6	94.2	92.0	92.1	91.4	88.9	86.8	89.4	86.1	84.1	81.4
800	137	95.5	93.9	91.4	91.6	90.8	87.3	85.8	89.3	86.8	83.5	80.4
700	101	95.9	94.6	92.1	92.2	91.9	89.8	86.7	90.3	86.9	83.2	79.9
600	69.4	96.3	95.3	92.7	92.8	92.9	92.3	87.6	91.2	86.9	82.9	79.3

Emissions Data Top

Units Filter All Units

DIESEL

RATED SPEED NOMINAL DATA: 2200 RPM

ENGINE POWER	BHP	416	312	208	104	41.6
PERCENT LOAD	%	100	75	50	25	10
TOTAL NOX (AS NO2)	G/HR	65	22	8	4	16

ENGINE POWER		BHP	416	312	208	104	41.6
PERCENT LOAD		%	100	75	50	25	10
TOTAL CO		G/HR	23	23	19	12	11
TOTAL HC		G/HR	3	7	8	8	11
TOTAL CO2		KG/HR	214	163	112	69	42
PART MATTER		G/HR	1.1	0.8	0.7	0.5	0.3
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	69.8	29.8	15.4	12.8	79.9
TOTAL CO	(CORR 5% O2)	MG/NM3	24.6	32.2	37.0	39.3	53.4
TOTAL HC	(CORR 5% O2)	MG/NM3	2.6	8.0	14.0	21.0	48.5
PART MATTER	(CORR 5% O2)	MG/NM3	1.0	1.0	1.2	1.4	1.6
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	34	15	7	6	39
TOTAL CO	(CORR 5% O2)	PPM	20	26	30	31	43
TOTAL HC	(CORR 5% O2)	PPM	5	15	26	39	91
TOTAL NOX (AS NO2)		G/HP-HR	0.16	0.07	0.04	0.04	0.39
TOTAL CO		G/HP-HR	0.06	0.08	0.09	0.12	0.26
TOTAL HC		G/HP-HR	0.01	0.02	0.04	0.07	0.27
PART MATTER		G/HP-HR	0.00	0.00	0.00	0.00	0.01
TOTAL NOX (AS NO2)		LB/HR	0.14	0.05	0.02	0.01	0.04
TOTAL CO		LB/HR	0.05	0.05	0.04	0.03	0.02
TOTAL HC		LB/HR	0.01	0.02	0.02	0.02	0.02
TOTAL CO2		LB/HR	472	360	246	152	93
PART MATTER		LB/HR	0.00	0.00	0.00	0.00	0.00
OXYGEN IN EXH		%	10.1	12.0	13.7	15.3	16.8

SECONDARY SPEED NOMINAL DATA: 1800 RPM

ENGINE POWER		BHP	416	312	208	104	41.6
PERCENT LOAD		%	100	75	50	25	10
TOTAL NOX (AS NO2)		G/HR	52	13	5	3	8
TOTAL CO		G/HR	24	21	15	12	7
TOTAL HC		G/HR	2	3	3	2	5
TOTAL CO2		KG/HR	202	147	101	57	32
PART MATTER		G/HR	0.7	0.5	0.6	0.4	0.0
TOTAL NOX (AS NO2)	(CORR 5% O2)	MG/NM3	56.2	20.0	12.5	13.7	48.2
TOTAL CO	(CORR 5% O2)	MG/NM3	26.9	31.6	34.1	44.6	47.2
TOTAL HC	(CORR 5% O2)	MG/NM3	1.9	3.8	5.7	8.7	25.3
PART MATTER	(CORR 5% O2)	MG/NM3	0.6	0.7	1.2	1.2	0.2
TOTAL NOX (AS NO2)	(CORR 5% O2)	PPM	27	10	6	7	24
TOTAL CO	(CORR 5% O2)	PPM	22	25	27	36	38
TOTAL HC	(CORR 5% O2)	PPM	4	7	11	16	47
TOTAL NOX (AS NO2)		G/HP-HR	0.13	0.04	0.03	0.03	0.18
TOTAL CO		G/HP-HR	0.06	0.07	0.07	0.11	0.17
TOTAL HC		G/HP-HR	0.00	0.01	0.01	0.02	0.11
PART MATTER		G/HP-HR	0.00	0.00	0.00	0.00	0.00
TOTAL NOX (AS NO2)		LB/HR	0.11	0.03	0.01	0.01	0.02
TOTAL CO		LB/HR	0.05	0.05	0.03	0.03	0.02
TOTAL HC		LB/HR	0.00	0.01	0.01	0.01	0.01
TOTAL CO2		LB/HR	445	324	223	127	71
PART MATTER		LB/HR	0.00	0.00	0.00	0.00	0.00
OXYGEN IN EXH		%	9.7	11.1	12.4	14.3	16.2

Regulatory Information Top

EPA TIER 4 FINAL **2014 - ----**

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO THE EPA ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 1039 SUBPART F AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE NON-ROAD REGULATIONS.

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
U.S. (INCL CALIF)	EPA	NON-ROAD	TIER 4 FINAL	CO: 3.5 NOx: 0.4 HC: 0.19 PM: 0.02

EU STAGE V **2019 - ----**

GASEOUS EMISSION DATA MEASUREMENTS ARE CONSISTENT WITH THOSE DESCRIBED IN EU 2016/1628, ECE REGULATION NO. 96 AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. GASEOUS EMISSION VALUES ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE NON-ROAD REGULATIONS.

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
EUROPE	EU	NON-ROAD	STAGE V	CO: 3.5 NOx: 0.4 HC: 0.19 PM: 0.015

JAPAN MLIT TIER 4F **2016 - ----**

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO MLIT ARE CONSISTENT WITH THOSE DESCRIBED IN EPA 40 CFR PART 1039 SUBPART F AND ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE JAPANESE NON-ROAD REGULATIONS.

JAPAN MLIT TIER 4F **2016 - ----**

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
JAPAN	JAPAN MLIT	NON-ROAD	TIER 4F	CO: 3.5 NOx: 0.4 HC: 0.19 PM: 0.02

SOUTH KOREA MOE TIER 4F **2015 - ----**

GASEOUS EMISSIONS DATA MEASUREMENTS PROVIDED TO KOREA ARE CONSISTENT WITH THOSE DESCRIBED IN ISO 8178 FOR MEASURING HC, CO, PM, AND NOX. THE "MAX LIMITS" SHOWN BELOW ARE WEIGHTED CYCLE AVERAGES AND ARE IN COMPLIANCE WITH THE KOREAN NON-ROAD REGULATIONS.

Locality	Agency	Regulation	Tier/Stage	Max Limits - G/BKW - HR
SOUTH KOREA	SOUTH KOREA MOE	NON-ROAD	TIER 4F	CO: 3.5 NOx: 0.4 HC: 0.19 PM: 0.025

UN R120 **2018 - ----**

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF INTERNAL COMBUSTION ENGINES TO BE INSTALLED IN AGRICULTURAL AND FORESTRY TRACTORS AND IN NON-ROAD MOBILE MACHINERY, WITH REGARD TO THE MEASUREMENT OF THE NET POWER, NET TORQUE AND SPECIFIC FUEL CONSUMPTION.

Altitude Derate Data Top

STANDARD

ALTITUDE CORRECTED POWER CAPABILITY (BHP)

AMBIENT OPERATING TEMP (F)	50	60	70	80	90	100	110	120	130	140	NORMAL
ALTITUDE (FT)											
0	416	416	416	416	416	415	414	412	411	410	416
1,000	416	416	416	415	414	413	411	410	409	407	416
2,000	416	415	414	413	411	410	409	407	406	404	414
3,000	414	413	411	410	408	407	406	404	403	391	411
4,000	411	409	408	407	405	404	402	401	396	378	409
5,000	407	406	404	403	402	400	393	387	380	364	406
6,000	405	404	402	398	392	385	378	372	365	351	404
7,000	399	396	390	383	376	369	363	356	349	336	399
8,000	393	387	379	371	363	356	348	341	333	323	393
9,000	376	368	360	352	344	337	330	324	318	310	377
10,000	354	347	340	333	327	321	314	308	302	296	359
11,000	334	329	323	317	311	306	299	293	287	280	340
12,000	319	313	307	302	296	290	284	278	271	265	324
13,000	304	299	293	287	281	275	269	263	256	250	310
14,000	290	284	278	273	267	260	255	248	242	236	297
15,000	275	270	264	258	253	247	241	234	228	222	285

Cross Reference Top

Test Spec	Setting	Engine Arrangement	Engineering Model	Engineering Model Version	Start Effective Serial Number	End Effective Serial Number
4581455	NAP	5395436	EE463	-	NGH00001	
5526640	PP7760	5395436	EE463	-	NGH00001	
4581811	NAP	5442940	EE465	-	NGK00001	
5526651	PP7794	5442940	EE465	-	NGK00001	
5526640	PP7760	5543102	EE463	-	NGH00001	
5526640	PP7760	6182747	EE463	-	NGH00001	
5526640	PP7760	6182754	EE463	-	NGH00001	
4150790	PP7359	6189640	EE463	-	HNW00001	
6351911	PP7597	6531675	EE463	-	K9H00001	
6351911	PP7597	6531677	EE463	-	K9H00001	

A-XXXX-7-Unit20

Screening Plant

And

Engine

McCloskey® INTERNATIONAL



S250 TRIPLE DECK SCREENER

The McCloskey® S250 Screener rises above all industry standards, positioned as one of the world's largest track mobile screener. The 6' x 22' high-energy 2 bearing 3 deck screenbox delivers more true screening area, and the 225 Hp CAT engine or 218 Hp Volvo engine deliver all the power needed for maximum production.

FEATURES

- ✓ 6' x 22'heavy duty high energy 2 bearing 3 deck screenbox
- ✓ Track mobile
- ✓ 225Hp engine / 218Hp Tier 4 engine
- ✓ Integrated hydraulic folding stockpiling conveyors
- ✓ Remote control tipping grid
- ✓ Fast on-site setup time – 15 minutes typically

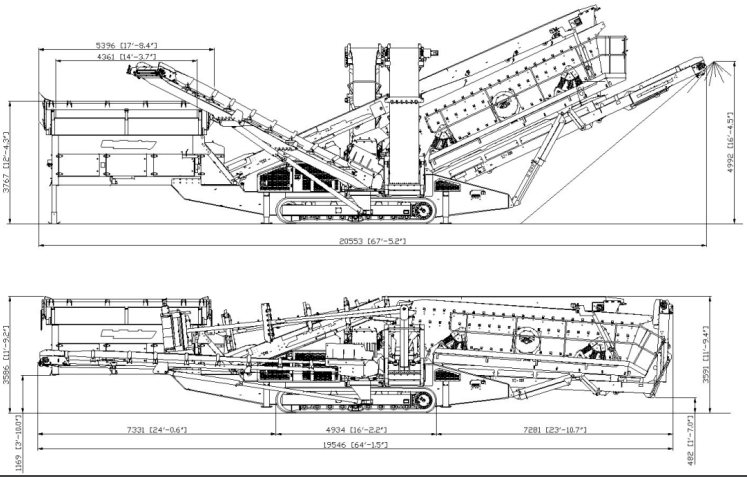
For more information, contact your dealer: mccloskeyinternational.com/dealer-map

McCloskey® INTERNATIONAL



The S250 features 900mm (36”) wide side conveyors and 800mm (32”) wide auxiliary conveyors for higher material flow. All conveyors have individual speed adjustment giving superior material flow control. The Reversible Cross Conveyor removes unwanted chutes which stops blockages and reduces maintenance required. The operator is able to change from a 3-way split to a 4-way split by turning a lever.

The most portable 22’ x 6”(6710mm x 1830mm) vibratory screening plant in production. This class leading screening area, along with its high energy screening action, ensure that the McCloskey S250 is the superior choice for aggregate material screening.



S250 TECH SPECS

Engine	168kW (225Hp)
Stockpile Height	
Tail Conveyor	4.99m (16’ 4.5”)
Side Conveyor	5.40m (17’ 8.5”)
Screenbox	
Top Deck	6.71m x 1.83m (22’ x 6’)
Middle Deck	6.71m x 1.83m (22’ x 6’)
Bottom Deck	6.10m x 1.83m (20’ x 6’)

TRANSPORT

Height	3.60m (11’ 10”)
Length	
12’ Hopper	18.55m (61’ 1.5”)
15’ Hopper	19.55m (64’ 1.5”)
Width	3.75m (12’ 2”)
Weight	42,430kgs (93,541lbs)

OPTIONS

Single or double deck live head | Single shaft shredder | 12’ or 15’ Hopper

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CATERPILLAR

Engine Emissions Data

For Emissions / Certification feedback and questions, please submit a ticket via our ERC Request Portal

This emission data is Caterpillar's best estimate for this rating. If actual emissions are required then an emission test needs to be run on your engine.

Serial Number (Machine)	
Serial Number (Engine)	**6J600542**
Sales Model	C7.1
Regulatory Build Date	23-JUL-2019
Engine ReRated	
Engine Arrangement Number	5694477
Certification Arrangement	
Test Spec Number	
Regulatory Status	CAT_Korea
Regulatory Status	CAT_NR_EPA/CARB_MLIT_R120_EU_China Export
Labeled Model Year	2019
EPA Family Code	KPKXL07.0VM1 KPKXL07.0VM1
EPA Emissions Level	EPA TIER 4f
EU Emissions Level	EU STAGE V
Japan Emissions Level	STEP 4 FINAL
EU Type Approval	e24*2016/1628*2018/989EV6/D*0132*01
Korea Type Approval	C7.1+4898/2200//19EN*PE*01
UN R120 Type Approval	120R-010014
CORR FL Power at RPM	
Advertised Power	
Total Displacement	7.01 L

Disclaimer: The information provided has been compiled from third party sources and is accurate to the best of Caterpillar's knowledge. However, Caterpillar cannot guarantee the accuracy, completeness, or validity of the information and is not liable for any errors or omissions contained therein. All information provided should be independently verified and confirmed, including by examining the emissions label located on the engine.

Need emission replacement label? Click here!

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ECM DATA [6J600542]

MAY 15, 2025

(6J600542)-ENGINE (FBH245308B)-CEM (PET103619M)-PETU

For Help Desk Phone Numbers Click here

Serial Number: 6J600542

Model: ENGINE C7.1 JETTA

List Number: 5694477

Rating/Power Curve:
225.3HP/2200RPM/T4898

Download ECM

ECM Configuration Details:
2019-07-26 13:30:20.0

To Print the document please select required data, copy it and paste to Word document

Summary

Description	Value
ECM Type	0
Data Link	4
ECM Name	C7.1 Industrial
Device ID	0x070100004907
Num Of Cylinders	6
ECM Serial Number	190525004028001N
ECM Software Part Number	5778064-00
Engine Serial Number	6J600542
ECM Part Number	5210793-04
Software Group Part Number	5778064-00
Supported Device ID	070100004907

return to top

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Emission Factors for Greenhouse Gas Inventories

Last Modified: February 13, 2024

Blue text indicates an update from the 2023 version of this document.

Typically, greenhouse gas emissions are reported in units of carbon dioxide equivalent (CO_2e). Gases are converted to CO_2e by multiplying by their global warming potential (GWP). In most cases, the emission factors listed in this document generally have not been converted to CO_2e. To do so, multiply the emissions by the corresponding GWP listed in the table below.

Gas	100-Year GWP
CH_4	28
N_2O	265

Source: Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report (AR5), 2013. See the source note to Table 11 for further explanation.

Notes:
These GWP values represent a change from the previous version of this document. In alignment with the U.S. Inventory of U.S. GHG Emissions and Sinks 1990-2021 Inventory Report, the recommended GWP values have been updated to Intergovernmental Panel on Climate Change (IPCC), Fifth Assessment Report (AR5) values.

Table 1 Stationary Combustion

Fuel Type	Heat Content (HHV)	CO_2 Factor	CH_4 Factor	N_2O Factor	CO_2 Factor	CH_4 Factor	N_2O Factor
	mmBtu per short ton	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per short ton	g CH_4 per short ton	g N_2O per short
Coal and Coke							
Anthracite	25.09	103.69	11	1.6	2,602	276	40
Bituminous	24.93	93.28	11	1.6	2,325	274	40
Sub-bituminous	17.25	97.17	11	1.6	1,676	190	28
Lignite	14.21	97.72	11	1.6	1,389	156	23
Mixed (Commercial Sector)	21.39	94.27	11	1.6	2,016	235	34
Mixed (Electric Power Sector)	19.73	95.52	11	1.6	1,885	217	32
Mixed (Industrial Coking)	26.28	93.90	11	1.6	2,468	289	42
Mixed (Industrial Sector)	22.35	94.67	11	1.6	2,116	246	36
Coal Coke	24.80	113.67	11	1.6	2,819	273	40
Other Fuels - Solid							
Municipal Solid Waste	9.95	90.70	32	4.2	902	318	42
Petroleum Coke (Solid)	30.00	102.41	32	4.2	3,072	960	126
Plastics	38.00	75.00	32	4.2	2,850	1,216	160
Tires	28.00	85.97	32	4.2	2,407	896	118
Biomass Fuels - Solid							
Agricultural Byproducts	8.25	118.17	32	4.2	975	264	35
Peat	8.00	111.84	32	4.2	895	256	34
Solid Byproducts	10.39	105.51	32	4.2	1,096	332	44
Wood and Wood Residuals	17.48	93.80	7.2	3.6	1,640	126	63
	mmBtu per scf	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per scf	g CH_4 per scf	g N_2O per scf
Natural Gas							
Natural Gas	0.001026	53.06	1.0	0.10	0.05444	0.00103	0.00010
Other Fuels - Gaseous							
Blast Furnace Gas	0.000092	274.32	0.022	0.10	0.02524	0.000002	0.000009
Coke Oven Gas	0.000599	46.85	0.48	0.10	0.02806	0.000288	0.000060
Fuel Gas	0.001388	59.00	3.0	0.60	0.08189	0.004164	0.000833
Propane Gas	0.002516	61.46	3.0	0.60	0.15463	0.007548	0.001510
Biomass Fuels - Gaseous							
Landfill Gas	0.000485	52.07	3.2	0.63	0.025254	0.001552	0.000306
Other Biomass Gases	0.000655	52.07	3.2	0.63	0.034106	0.002096	0.000413
	mmBtu per gallon	kg CO_2 per mmBtu	g CH_4 per mmBtu	g N_2O per mmBtu	kg CO_2 per gallon	g CH_4 per gallon	g N_2O per gallon
Petroleum Products							
Asphalt and Road Oil	0.158	75.36	3.0	0.60	11.91	0.47	0.09
Aviation Gasoline	0.120	69.25	3.0	0.60	8.31	0.36	0.07
Butane	0.103	64.77	3.0	0.60	6.67	0.31	0.06
Butylene	0.105	68.72	3.0	0.60	7.22	0.32	0.06
Crude Oil	0.138	74.54	3.0	0.60	10.29	0.41	0.08
Distillate Fuel Oil No. 1	0.139	73.25	3.0	0.60	10.18	0.42	0.08
Distillate Fuel Oil No. 2	0.138	73.96	3.0	0.60	10.21	0.41	0.08
Distillate Fuel Oil No. 4	0.146	75.04	3.0	0.60	10.96	0.44	0.09
Ethane	0.068	59.60	3.0	0.60	4.05	0.20	0.04
Ethylene	0.058	65.96	3.0	0.60	3.83	0.17	0.03
Heavy Gas Oils	0.148	74.92	3.0	0.60	11.09	0.44	0.09
Isobutane	0.099	64.94	3.0	0.60	6.43	0.30	0.06
Isobutylene	0.103	68.86	3.0	0.60	7.09	0.31	0.06
Kerosene	0.135	75.20	3.0	0.60	10.15	0.41	0.08
Kerosene-Type Jet Fuel	0.135	72.22	3.0	0.60	9.75	0.41	0.08
Liquefied Petroleum Gases (LPG)	0.092	61.71	3.0	0.60	5.68	0.28	0.06
Lubricants	0.144	74.27	3.0	0.60	10.69	0.43	0.09
Motor Gasoline	0.125	70.22	3.0	0.60	8.78	0.38	0.08
Naphtha (<401 deg F)	0.125	68.02	3.0	0.60	8.50	0.38	0.08
Natural Gasoline	0.110	66.88	3.0	0.60	7.36	0.33	0.07
Other Oil (>401 deg F)	0.139	76.22	3.0	0.60	10.59	0.42	0.08
Pentanes Plus	0.110	70.02	3.0	0.60	7.70	0.33	0.07
Petrochemical Feedstocks	0.125	71.02	3.0	0.60	8.88	0.38	0.08
Propane	0.091	62.87	3.0	0.60	5.72	0.27	0.05
Propylene	0.091	67.77	3.0	0.60	6.17	0.27	0.05
Residual Fuel Oil No. 5	0.140	72.93	3.0	0.60	10.21	0.42	0.08
Residual Fuel Oil No. 6	0.150	75.10	3.0	0.60	11.27	0.45	0.09
Special Naphtha	0.125	72.34	3.0	0.60	9.04	0.38	0.08
Unfinished Oils	0.139	74.54	3.0	0.60	10.36	0.42	0.08
Used Oil	0.138	74.00	3.0	0.60	10.21	0.41	0.08
Biomass Fuels - Liquid							
Biodiesel (100%)	0.128	73.84	1.1	0.11	9.45	0.14	0.01
Ethanol (100%)	0.084	68.44	1.1	0.11	5.75	0.09	0.01
Rendered Animal Fat	0.125	71.06	1.1	0.11	8.88	0.14	0.01
Vegetable Oil	0.120	81.55	1.1	0.11	9.79	0.13	0.01
Biomass Fuels - Kraft Pulping Liquor, by Wood Furnish							
North American Softwood		94.4	1.9	0.42			
North American Hardwood		93.7	1.9	0.42			
Bagasse		95.5	1.9	0.42			
Bamboo		93.7	1.9	0.42			
Straw		95.1	1.9	0.42			

Source:
Federal Register EPA; 40 CFR Part 98; e-CFR, (see link below). Table C-1 and Table C-2 (78 FR 71950, Nov. 29, 2013, as amended at 81 FR 89252, Dec. 9, 2016), Table AA-1 (78 FR 71965, Nov. 29, 2013).
https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-98

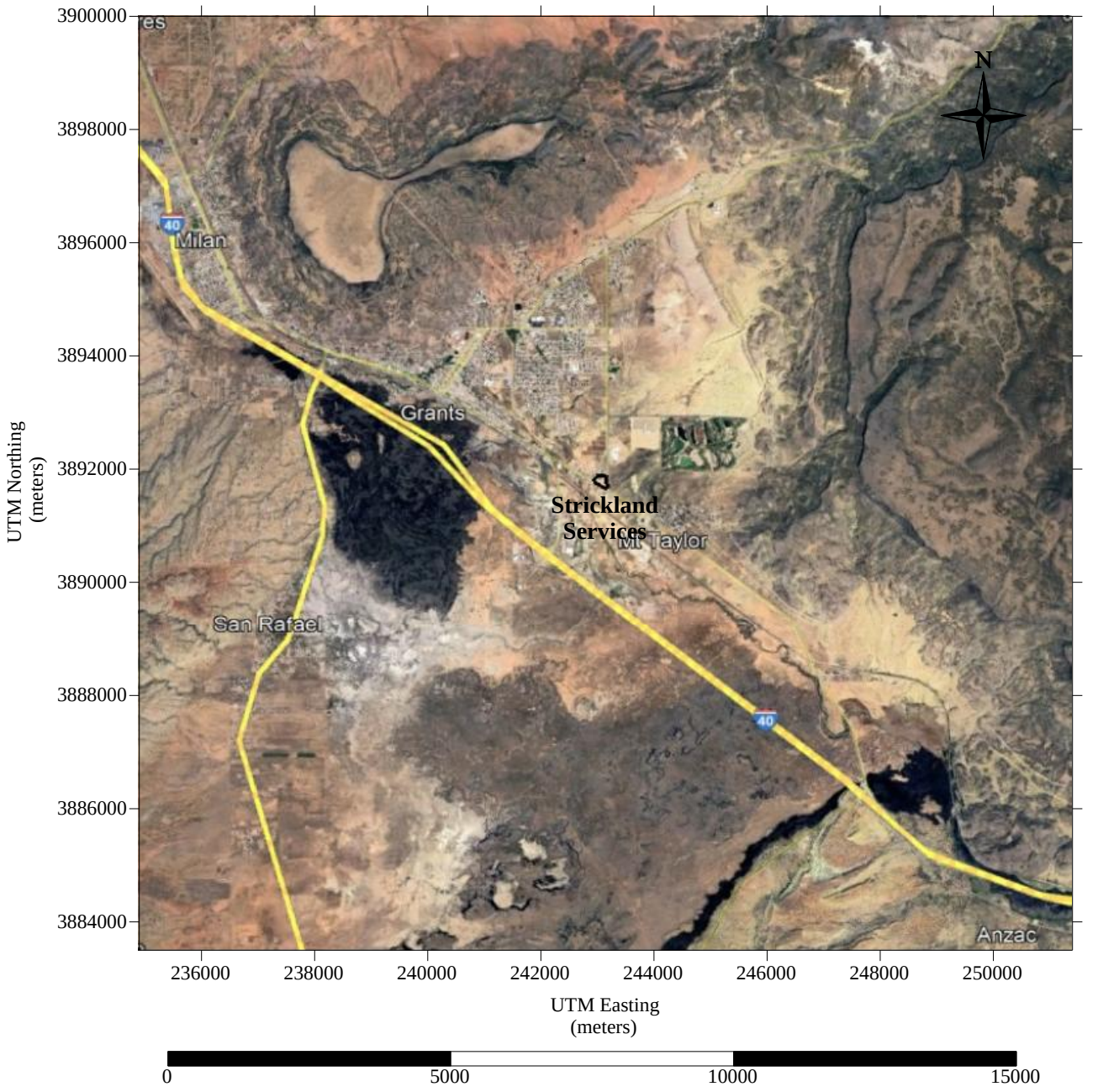
Notes:
Emission factors are per unit of heat content using higher heating values (HHV). If heat content is available from the fuel supplier, it is preferable to use that value. If not, default heat contents are provided.
All CO_2 emission factors assume that 100 percent of the carbon content of the fuel is oxidized to CO_2, as is recommended by the Intergovernmental Panel on Climate Change (IPCC).
The CH_4 and N_2O emission factors provided represent emissions in terms of fuel type and by end-use sector (i.e., residential, commercial, industrial, electricity generation).
The factors represented in the table above represent combustion emissions only and do not represent upstream emissions.

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	



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. **X** A copy of the certified letter receipts with post marks (20.2.72.203.B NMAC)
2. **X** 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. **X** A copy of the property tax record (20.2.72.203.B NMAC).
4. **X** A sample of the letters sent to the owners of record.
5. **X** A sample of the letters sent to counties, municipalities, and Indian tribes.
6. **X** A sample of the public notice posted and a verification of the local postings.
7. **X** A table of the noticed citizens, counties, municipalities and tribes and to whom the notices were sent in each group.
8. **X** A copy of the public service announcement (PSA) sent to a local radio station and documentary proof of submittal.
9. **X** 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. **X** 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. **X** 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.

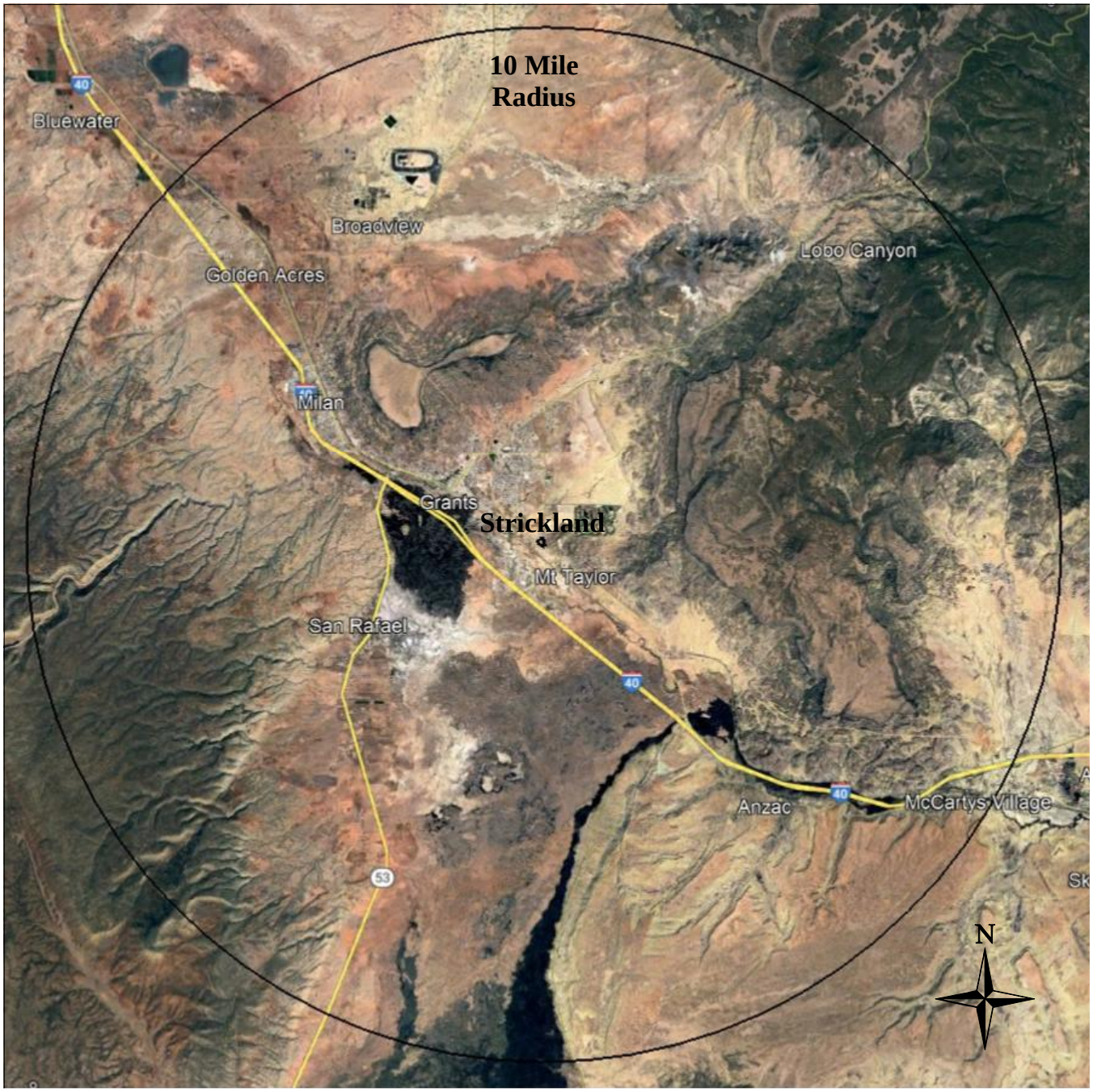


Figure 9-1: Ten-Mile Radius around Site

Government List within 10 Miles

GOVERNMENT ENTITY	GOVERNMENT REPRESENTATIVE	MAILADD	MCITY	STATE	ZIP
Cibola County	Natalie Grine, County Clerk	PO Box 190	Grants	NM	87020
City of Grants	Frances Salas, City Clerk	600 W Santa Fe Ave	Grants	NM	87020
Village of Milan	Denise Baca, Village Clerk	P.O. Box 2727	Milan	NM	87021
Acoma Pueblo	Tony Chino, Executive Assistant	P.O. Box 309	Acoma Pueblo	NM	87034

Landowner List within 100 Feet (City of Grants – Population - 8880)

Acct_No	OWNNAME	MAILADD	MCITY	STATE	ZIP
R14450	Hatten, Lillie M. C/O: Hatten Michael L	PO Box 1301	Grants	NM	87020
R14484	Manire, Anna Belle	16 McBride Rd	Grants	NM	87020
R14491	Hatten William D Garcia-Hatten Michelle	PO Box 1301	Grants	NM	87020
R14632	Mesa Transportation, Inc.	PO Box 1360	Grants	NM	87020
R14765	Hatten, Lillie M. C/O: Hatten Michael L	PO Box 1301	Grants	NM	87020
R15579	Hatten Willian D Garcia-Hatten, Michelle	PO Box 1301	Grants	NM	87020
R16032	Hatten Willian D Garcia-Hatten, Michelle	PO Box 1301	Grants	NM	87020
R16329	Spidle, Cynthia Chalamides, Elizabeth Fidel, Joseph A. &	732 Jefferson	Grants	NM	87020
R16798	Sandoval, Rudy D. & Smith, Loretta	6501 Moon Shadows Dr NW	Albuquerque	NM	87120
R17879	Hobbs Justin M & Hobbs Valarie L	90512 San Mateo	Grants	NM	87020
R17914	Hatten Willian D Garcia-Hatten, Michelle	PO Box 1301	Grants	NM	87020
R18337	Wilson, Mary E., and Rosemarie Wison, Co-Trustee Mary E Wilson Revocable Trust	19 McBride Road	Grants	NM	87020
R18345	Labbe, Anita I. C/O: Hovland, W. & Thiel T.	47 Marlin Road	Thoreau	NM	87323
R19058	Hatten, Dwayne	PO Box 1301	Grants	NM	87020
R19116	Wilson Real Estate Solutions, LLC	6709 Noble Dr NE	Albuquerque	NM	87113
R19174	City of Grants	PO Box 879	Grants	NM	87020

NOTICE

Strickland Services (Strickland), LLC announces its application submittal to the New Mexico Environment Department for a new minor source NSR permit application for an Air Quality Permit. The permit is for the Strickland's aggregate processing facility, which processes aggregate and recycled material. The expected date of application submittal to the Air Quality Bureau is August 22, 2025.

The address for the facility known as, Strickland Aggregate Crusher Plant, is 129 Sakelares Blvd., Grants, NM 87020. The exact location of the Strickland Aggregate Crusher Plant is at Latitude (decimal degrees): 35.13631 and Longitude (decimal degrees): -107.81970. The approximate location of this facility is 1.5 miles southeast of Grants in Cibola County.

The function of the facility is to crush and screen aggregate and/or recycle material from on-site storage piles into usable material.

The 300 tph crushing and screening operations will include an aggregate/recycle raw materials pile, a feeder for the crushing plant and screening plant, one (1) impact crusher, one (1) prescreen, one (1) 3-deck screen, nine (9) transfer conveyors, and four (4) stacker conveyors. The crushing plant will be powered by a 416 horsepower (hp) (314 kW) engine. The screening plant will be powered by a 225 horsepower (hp) (168 kW) engine. Aggregate/recycle material will be delivered to the site by truck and stored in the raw material aggregate/recycle storage pile. Material from the raw material aggregate/recycle storage pile will first be processed through the crushing plant. Processed material from the crushing plant will be fed through the screening plant. From the screening plant the processed material will be sent to the finish storage piles until transported from the facility to off-site sales. The crushing and screening plants will limit the processing rate to 300 tons per hour (tph) and 350,000 tons per year (tpy).

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

Pollutant:	Maximum Pounds per hour	Maximum Tons per year
PM_{10}	6.84 pph	3.70 tpy
$PM_{2.5}$	1.03 pph	0.61 tpy
Sulfur Dioxide (SO_2)	0.0068 pph	0.012 tpy
Nitrogen Oxides (NO_x)	0.29 pph	0.53 tpy
Carbon Monoxide (CO)	1.35 pph	2.47 tpy
Volatile Organic Compounds (VOC)	0.08 pph	0.15 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	0.027 pph	0.049 tpy
Toxic Air Pollutant (TAP)	0.00017 pph	0.00030 tpy
Green House Gas Emissions as Total CO_2e	n/a	1255 tpy

The maximum operating schedule for material processing is 11 hours per day (7 am to 6 pm) for the months of April through August, 9 hours per day (8 am to 5 pm) for the month of March, 9.5 hours per day (8 am to 5:30 pm) for the month of September, and 7 hours per day (9 am to 4 pm) for the months of November through February, 7 days per week, and 52 weeks per year. The standard schedule for material processing is 9 hours per day. To allow for engine warmup, plant engines will be allowed to startup one hour prior to material processing.

The owner and/or operator mailing address for the Facility is:

Strickland Services, LLC
1530 Ice Caves Rd.
Grants, NM 87020-9501

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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.

Attención

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 505-629-3395.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. 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.

Facility Entrance to the Strickland Aggregate Crusher Plant

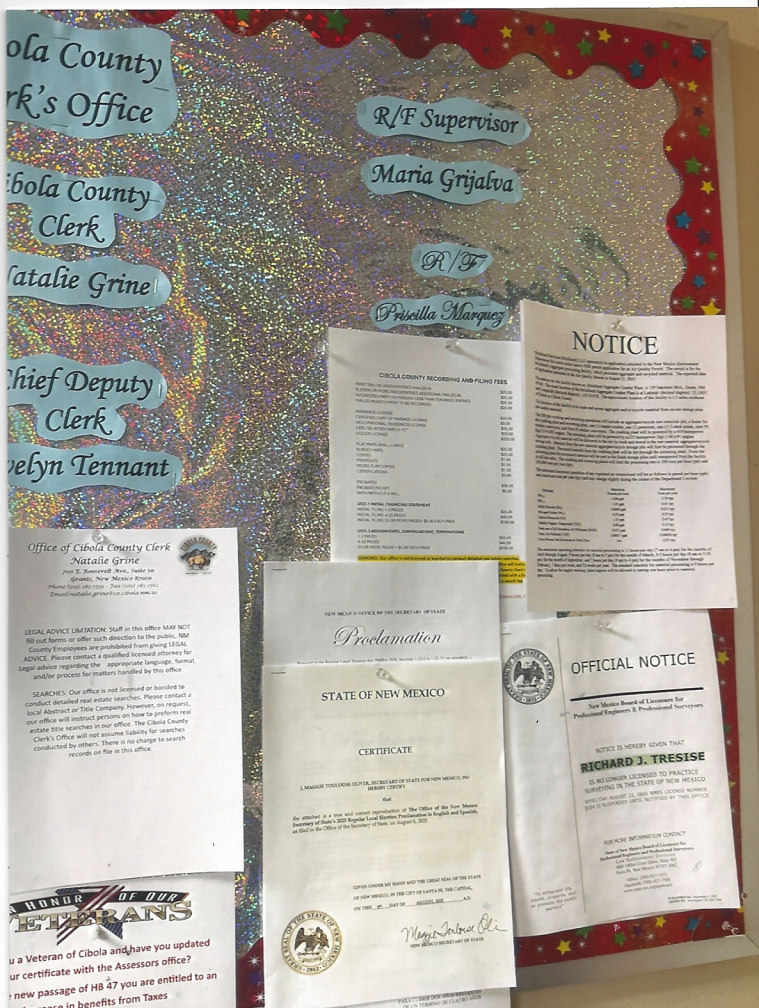
129 Sakelares Blvd, Grants, NM


NOTICE

13th Judicial District Court Cibola County

700 E. Roosevelt Ave, Grants, NM


13TH JUDICIAL
DISTRICT COURT
Suite 60


ola County
rk's Office
ibola County
Clerk
atalie Grine
hief Deputy
Clerk
elyn Tennant
R/F Supervisor
Maria Grijalva
R/F
Priscilla Marquez
NOTICE
CIBOLA COUNTY RECORDING AND FILING FEES
Office of Cibola County Clerk
Natalie Grine
Grants, New Mexico 87020
LEGAL ADVICE LIMITATION: Staff in this office MAY NOT fill out forms or offer such direction to the public. NM County Employees are prohibited from giving LEGAL ADVICE. Please contact a qualified licensed attorney for Legal advice regarding the appropriate language, format, and/or process for matters handled by this office.
SEARCHES: Our office is not licensed or bonded to conduct detailed real estate searches. Please contact a local Abstract or Title Company. However, on request, our office will instruct persons on how to preform real estate title searches in our office. The Cibola County Clerk's Office will not assume liability for searches conducted by others. There is no charge to search records on file in this office.
NEW MEXICO OFFICE OF THE SECRETARY OF STATE
Proclamation
STATE OF NEW MEXICO
CERTIFICATE
OFFICIAL NOTICE
New Mexico Board of Licensure for Professional Engineers & Professional Surveyors
NOTICE IS HEREBY GIVEN THAT
RICHARD J. TRESISE
IS NO LONGER LICENSED TO PRACTICE SURVEYING IN THE STATE OF NEW MEXICO
HONOR OF OUR
ETERANS
u a Veteran of Cibola and have you updated
ur certificate with the Assessors office?
new passage of HB 47 you are entitled to an
ncrease in benefits from Taxes

Grants Public Library

1101 N. First St., Grants, NM

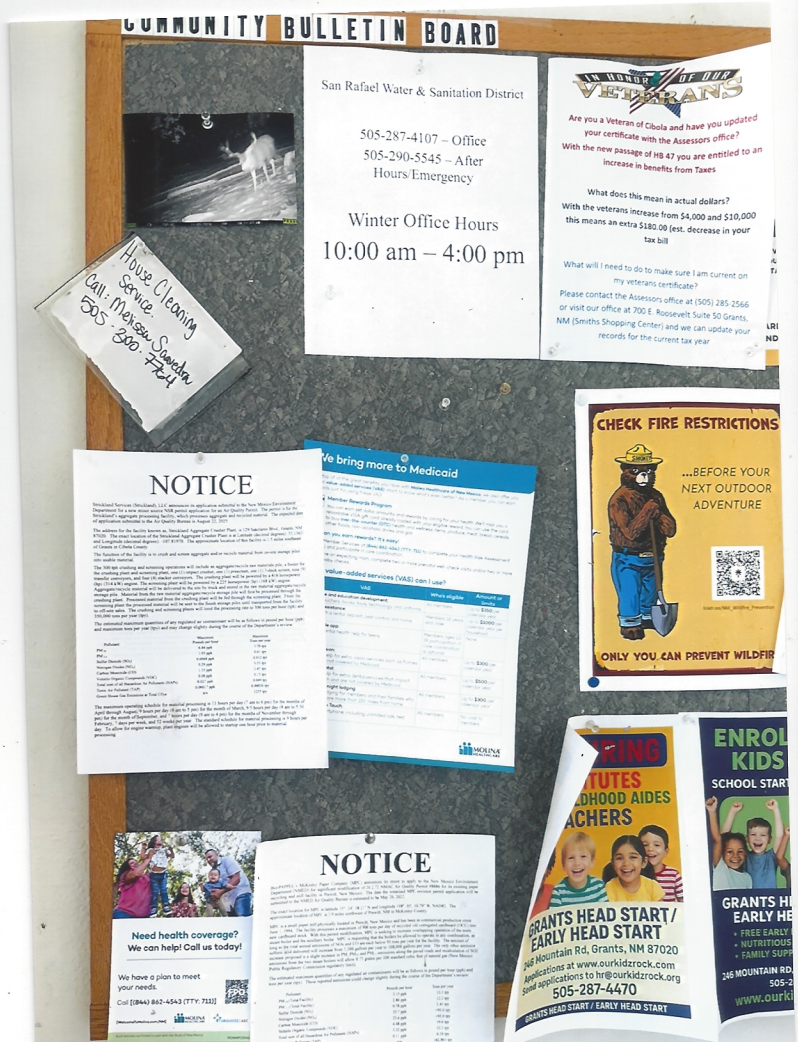

GRANTS
PUBLIC LIBRARY
1101 N. FIRST ST.


NOTICE
FamilyPass
BOOK TALK
ATTENTION
RESIDENTIAL
BEE SWARM REMOVAL
EARN RESPECT
Renaissance Fair
Try camping without a fores
505-290-2469

US Post Office

116 Main St., San Rafael, NM


UNITED STATES POSTOFFICE
SAN RAFAEL, NEW MEXICO 87051


COMMUNITY BULLETIN BOARD
San Rafael Water & Sanitation District
505-287-4107 – Office
505-290-5545 – After Hours/Emergency
Winter Office Hours
10:00 am – 4:00 pm
IN HONOR OF OUR VETERANS
Are you a Veteran of Cibola and have you updated your certificate with the Assessors office?
With the new passage of HB 47 you are entitled to an increase in benefits from Taxes
What does this mean in actual dollars?
With the veterans increase from $4,000 and $10,000 this means an extra $180.00 (est. decrease in your tax bill
What will I need to do to make sure I am current on my veterans certificate?
Please contact the Assessors office at (505) 285-2566 or visit our office at 700 E. Roosevelt Suite 50 Grants, NM (Smiths Shopping Center) and we can update your records for the current tax year
House Cleaning Service
Call: Mersen Sisneros
505-300-7124
NOTICE
We bring more to Medicaid
CHECK FIRE RESTRICTIONS
...BEFORE YOUR NEXT OUTDOOR ADVENTURE
ONLY YOU CAN PREVENT WILDFIR
Need health coverage?
We can help! Call us today!
We have a plan to meet your needs.
Call (844) 862-4543 (TTY: 7333)
NOTICE
GRANTS HEAD START / EARLY HEAD START
248 Mountain Rd, Grants, NM 87020
Applications at www.ourkidzrock.com
Send applications to hr@ourkidzrock.org
505-287-4470
GRANTS HEAD START / EARLY HEAD START
ENROL KIDS
SCHOOL START
GRANTS HE EARLY HE
FREE EARLY
NUTRITIOUS
FAMILY SUPP
246 MOUNTAIN RD
505-2
www.ourki

General Posting of Notices – Certification

I, Janelle Strickland, the undersigned, certify that on **{DATE},** posted a true and correct copy of the attached Public Notice in the following publicly accessible and conspicuous places in the City of ~~Las Vegas~~ Grants of ~~San Miguel~~ Cibola County, State of New Mexico on the following dates:

1. Facility entrance {DATE} 129 Sakelares Grants
2. {Location 2}{DATE} 1101 N. First St Grants
3. {Location 3}{DATE} 700 E. Roosevelt Ave Grants
4. {Location 4}{DATE} 116 Main St. San Rafael

Signed this 20 day of August, 2025

Signature

08-20-25
Date

Janelle Strickland
Printed Name

Secretary
Title {APPLICANT OR RELATIONSHIP TO APPLICANT}

(1) Strickland Aggregate Crusher Plant
(2) Grants Public Library
(3) Thirteenth Judicial District Court Cibola County
(4) United States Postal Service

August 22, 2025

CERTIFIED MAIL

Dear **[Neighbor/Environmental Director/county or municipal official]**

Strickland Services (Strickland), LLC announces its application submittal to the New Mexico Environment Department for a new minor source NSR permit application for an Air Quality Permit. The permit is for the Strickland's aggregate processing facility, which processes aggregate and recycled material. The expected date of application submittal to the Air Quality Bureau is August 22, 2025.

The address for the facility known as, Strickland Aggregate Crusher Plant, is 129 Sakelares Blvd., Grants, NM 87020. The exact location of the Strickland Aggregate Crusher Plant is at Latitude (decimal degrees): 35.13631 and Longitude (decimal degrees): -107.81970. The approximate location of this facility is 1.5 miles southeast of Grants in Cibola County.

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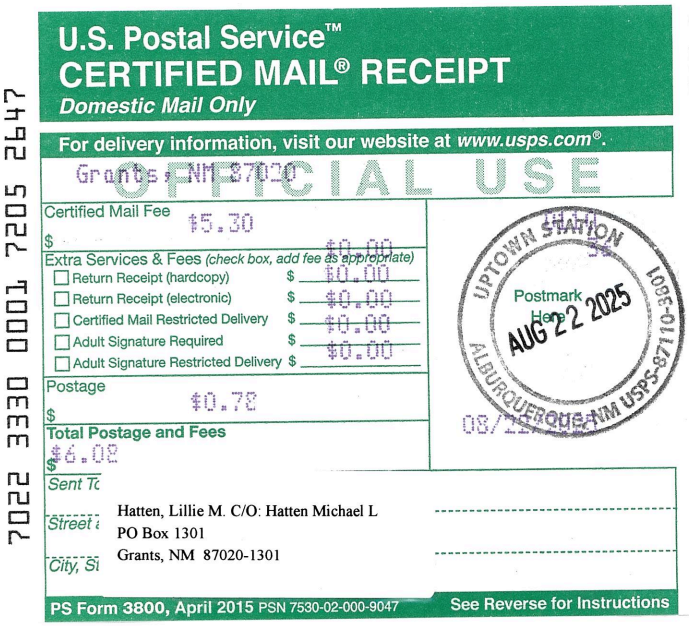
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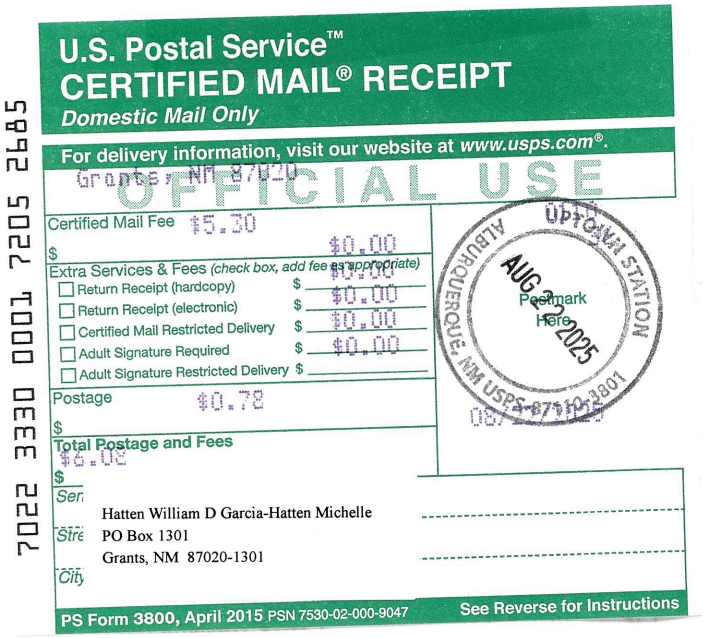
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☐ Adult Signature Required $ $0.00
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Postage $0.78
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Total Postage and Fees
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Hatten, Lillie M. C/O: Hatten Michael L
PO Box 1301
Grants, NM 87020-1301
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ALBUQUERQUE, NM USPS-87110-3801
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City,
Manire, Anna Belle
16 McBride Rd
Grants, NM 87020-9700
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☐ Adult Signature Required $ $0.00
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Total Postage and Fees
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City
Hatten William D Garcia-Hatten Michelle
PO Box 1301
Grants, NM 87020-1301
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☐ Adult Signature Required $ $0.00
☐ Adult Signature Restricted Delivery $
Postage $0.78
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Total Postage and Fees
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Stree
City,
Mesa Transportation, Inc.
PO Box 1360
Grants, NM 87020-1360
UPTOWN STATION
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Postage $0.78

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City, State, ZIP+4® Grants, NM 87020-1301

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UPTOWN STATION
ALBUQUERQUE NM USPS-87110-3801
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City, State, ZIP+4® Grants, NM 87020-1301

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Postage $0.78

Total Postage and Fees $6.02

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City, State, ZIP+4® Grants, NM 87020-1301

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- ☐ Return Receipt (electronic) $ $0.00
- ☐ Certified Mail Restricted Delivery $ $0.00
- ☐ Adult Signature Required $ $0.00
- ☐ Adult Signature Restricted Delivery $

Postage $0.78

Total Postage and Fees $6.02

Sent To: Spidle, Cynthia Chalamides, Elizabeth Fidel, Joseph A. &
Street and Apt. No., or PO Box No. 732 Jefferson
City, State, ZIP+4® Grants, NM 87020-3414

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PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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Albuquerque, NM 87120

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Extra Services & Fees *(check box, add fee as appropriate)*	
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☐ Return Receipt (electronic)	$0.00
☐ Certified Mail Restricted Delivery	$0.00
☐ Adult Signature Required	$0.00
☐ Adult Signature Restricted Delivery	$
Postage	$0.78
Total Postage and Fees	$6.02

0110
UPTOWN STATION
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Sandoval, Rudy D. & Smith, Loretta
Street and
6501 Moon Shadows Dr NW
City, St
Albuquerque, NM 87120-4831

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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	$
Postage	$0.78
Total Postage and Fees	$6.02

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UPTOWN STATION
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AUG 22 2025
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Sent To
Hobbs Justin M & Hobbs Valarie L
Street and
90512 San Mateo
City, St
Grants, NM 87020-9616

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☐ Certified Mail Restricted Delivery	$0.00
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☐ Adult Signature Restricted Delivery	$
Postage	$0.78
Total Postage and Fees	$6.02

0110
UPTOWN STATION
ALBUQUERQUE, NM USPS-87110-3801
AUG 22 2025
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Hatten Willian D Garcia-Hatten, Michelle
Street and
PO Box 1301
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Grants, NM 87020-1301

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6709 Noble Dr NE
City Albuquerque, NM 87113-1140

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Natalie Grine, County Clerk Cibola County
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Ser
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Frances Salas, City Clerk
City of Grants
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City,

Tony Chino, Executive Assistant
Acoma Pueblo
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Total Postage and Fees
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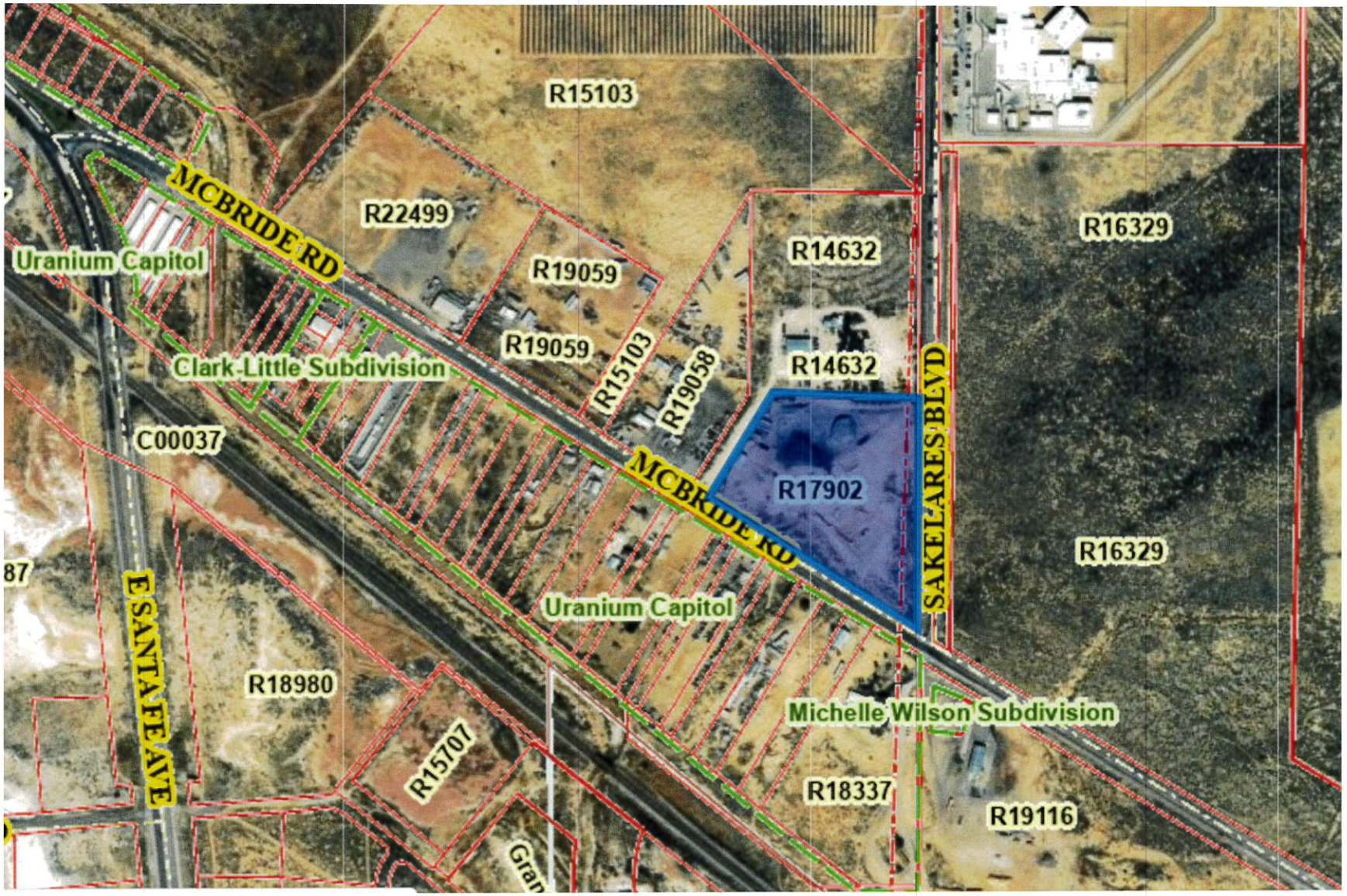
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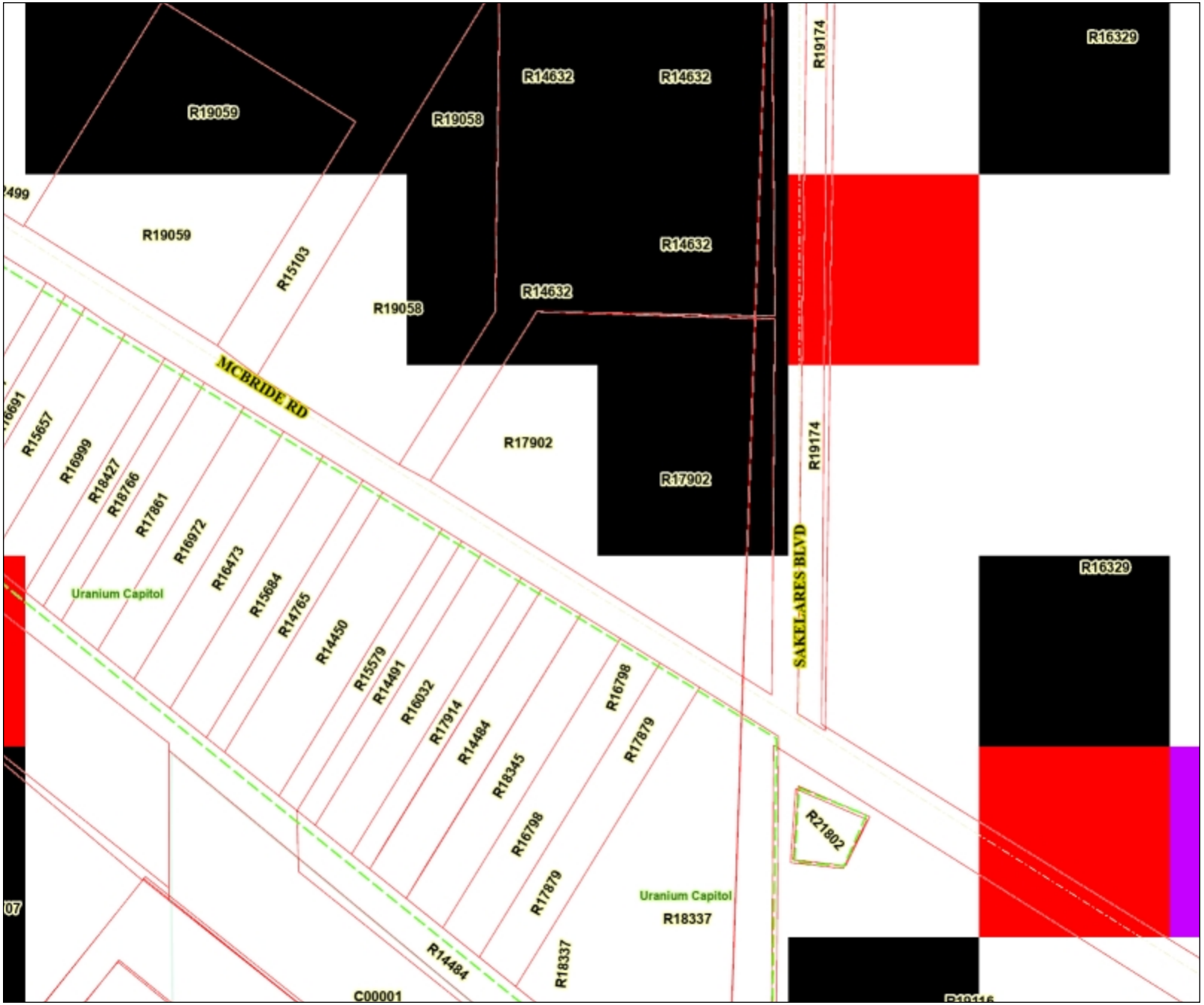
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Denise Baca, Village Clerk
Village of Milan
P.O. Box 2727
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MCBRIDE RD
R22499
Uranium Capitol
R19059
R19059
R15103
R19058
Clark-Little Subdivision
C00037
MCBRIDE RD
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R14632
R16329
SAKELARES BLVD
R17902
R16329
87
E SANTA FE AVE
Uranium Capitol
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Legend

- Roads
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NOTICE OF AIR QUALITY PERMIT APPLICATION

Strickland Services (Strickland), LLC announces its application submittal to the New Mexico Environment Department for a new minor source NSR permit application for an Air Quality Permit. The permit is for the Strickland's aggregate processing facility, which processes aggregate and recycled material. The expected date of application submittal to the Air Quality Bureau is August 22, 2025.

The address for the facility known as, Strickland Aggregate Crusher Plant, is 1629 Sakelares Blvd., Grants, NM 87020. The exact location of the Strickland Aggregate Crusher Plant is at Latitude (decimal degrees): 35.13631 and Longitude (decimal degrees): -107.81970. The approximate location of this facility is 1.5 miles southeast of Grants in Cibola County.

The function of the facility is to crush and screen aggregate and/or recycle material from on-site storage piles into usable material.

The 300 tph crushing and screening operations will include an aggregate/recycle raw materials pile, a feeder for the crushing plant and screening plant, one (1) impact crusher, one (1) prescreen, one (1) 3-deck screen, nine (9) transfer conveyors, and four (4) stacker conveyors. The crushing plant will be powered by a 416 horsepower (hp) (314 kW) engine. The screening plant will be powered by a 225 horsepower (hp) (168 kW) engine. Aggregate/recycle material will be delivered to the site by truck and stored in the raw material aggregate/recycle storage pile. Material from the raw material aggregate/recycle storage pile will first be processed through the crushing plant. Processed material from the crushing plant will be fed through the screening plant. From the screening plant the processed material will be sent to the finish storage piles until transported from the facility to off-site sales. The crushing and screening plants will limit the processing rate to 300 tons per hour (tph) and 350,000 tons per year (tpy).

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

Pollutant:	Maximum Pounds per hour	Maximum Tons per year
PM_{10}	6.84 pph	3.70 tpy
$PM_{2.5}$	1.03 pph	0.61 tpy
Sulfur Dioxide (SO_2)	0.0068 pph	0.012 tpy
Nitrogen Oxides (NO_x)	0.29 pph	0.53 tpy
Carbon Monoxide (CO)	1.35 pph	2.47 tpy
Volatile Organic Compounds (VOC)	0.08 pph	0.15 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	0.027 pph	0.049 tpy
Toxic Air Pollutant (TAP)	0.00017 pph	0.00030 tpy
Green House Gas Emissions as Total CO_2e	n/a	1255 tpy

The maximum operating schedule for material processing is 11 hours per day (7 am to 6 pm) for the months of April through August, 9 hours per day (8 am to 5 pm) for the month of March, 9.5 hours per day (8 am to 5:30 pm) for the month of September, and 7 hours per day (9 am to 4 pm) for the months of November through February, 7 days per week, and 52 weeks per year. The standard schedule for material processing is 9 hours per day. To allow for engine warmup, plant engines will be allowed to startup one hour prior to material processing.

The owner and/or operator mailing address for the Facility is:

Strickland Services, LLC
1530 Ice Caves Rd.
Grants, NM 87020-9501

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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.

Attención
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 505-629-3395.

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Traffic Stop Helps Find Wanted Man

Amerika Rougemont, Reporter

GRANTS, N.M. – A local man is in custody after an alleged spree of serious crimes in the City of Grants.

On August 4, an unnamed female and local man Andrew Gurule "met up" in Mt. Taylor Addition, a subdivision of the city in the outskirts.

According to the victim's statement in the Grants Police Department Case Records, Gurule went in her car and pointed a handgun at her, threatening to harm her, her children, and her family if she did not comply with his directions.

She was then taken to an RV style trailer and sexually assaulted five to six times through August 4 to the 5.

On August 5, according to the case report, a witness saw Gurule and the victim having a discussion near a single wide trailer on Balsam Street. Though unable to hear what they were saying, the witness explained that the woman seemed to be upset. The witness told police that he witnessed Gurule hit the victim, and she fell to the ground, curled up and didn't move.

Reportedly, the male then walked to the front door of the trailer. That witness could no longer see the two.

At some point, another female, Fawne Grauerholtz got involved. A witness told police that Gurule had taken the victim's keys, likely using force. According to the victim, Grauerholtz attempted to take back the victim's keys.

Another witness explained to police that a red vehicle was trying to back out of the driveway, and the lady behind tried to stop them. She went to the driver side of the vehicle and she and the person inside argued. The vehicle then drove away, leaving the lady on the ground.

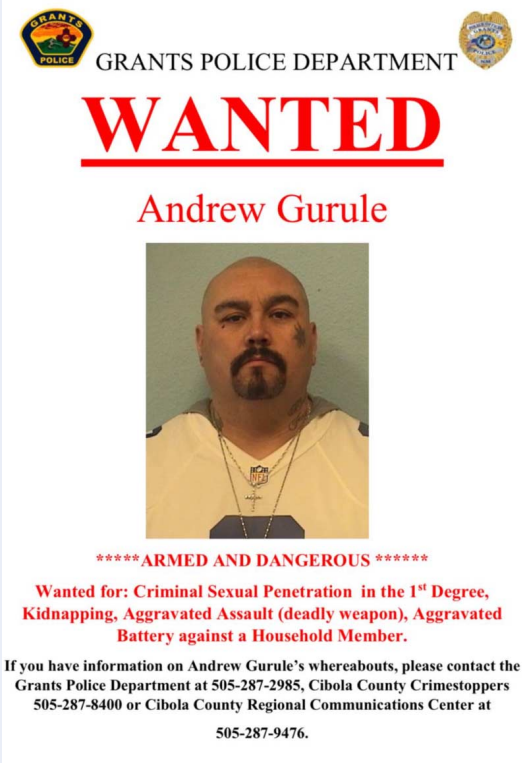
An anonymous reporting party called police and informed them a female had been struck by a vehicle. Units and Fire responded and located the female in the street.

After investigating the scene, first responders was determined that the person struck by the vehicle was the same person who was hit by the male.

An officer spoke with someone who stated that Fawne Grauerholz was the person operating the vehicle that reportedly struck the victim.

The victim was transported to Cibola General Hospital by the Fire Department.

Further information obtained from the victim is that she believes Grauerholz is also a victim of Andrew Gurule.



A warrant was from the Grants Police Department for Andrew Gurule for criminal sexual penetration in the first degree, aggravated assault with a deadly weapon, and aggravated battery against a household member.

A community-wide manhunt had begun for his capture.

On August 14, the police conducted a traffic stop on a car driven by the suspect Grauerholz did not stop and continued, failing to stay in her lane. Attempting to evade the police by driving off the roadway and through the arroyo, railroad right of way, and eventually almost colliding with a GPD patrol car during the low-speed chase, the officers were able to see that Andrew Gurule was the passenger.

With the assistance of the Milan Police Department and Cibola County Sheriff's Office, the Grants Police Department was able to apprehend Gurule and Grauerholz.

Fawne Graurholz was charged with aggravated fleeing, harboring a felon, driving under the influence of drugs, and resisting, evading, and obstructing an officer.

Andrew Gurule was arrested on his active warrants.

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Pollutant:	Maximum Pounds per hour	Maximum Tons per year
PM 10	6.84 pph	3.70 tpy
PM 2.5	1.03 pph	0.61 tpy
Sulfur Dioxide (SO2)	0.0068 pph	0.012 tpy
Nitrogen Oxides (NOx)	0.29 pph	0.53 tpy
Carbon Monoxide (CO)	1.35 pph	2.47 tpy
Volatile Organic Compounds (VOC)	0.08 pph	0.15 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	0.027 pph	0.049 tpy
Toxic Air Pollutant (TAP)	0.00017 pph	0.00030 tpy
Green House Gas Emissions as Total CO2e	n/a	1255 tpy

The maximum operating schedule for material processing is 11 hours per day (7 am to 6 pm) for the months of April through August, 9 hours per day (8 am to 5 pm) for the month of March, 9.5 hours per day (8 am to 5:30 pm) for the month of September, and 7 hours per day (9 am to 4 pm) for the months of November through February, 7 days per week, and 52 weeks per year. The standard schedule for material processing is 9 hours per day. To allow for engine warmup, plant engines will be allowed to startup one hour prior to material processing.

The owner and/or operator mailing address for the Facility is:
Strickland Services, LLC
1530 Ice Caves Rd.
Grants, NM 87020-9501

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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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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 505-629-3395.

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: Non-Discrimination Coordinator, NMED, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@env.nm.gov. 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.

Indictments Filed in July 2025

Cibola Citizen Staff Report

GRANTS, N.M. — Over the past month, a Cibola County grand jury returned indictments against eleven defendants on 24 felony counts and six misdemeanors, with allegations ranging from first-degree criminal sexual penetration of a child under 13 to aggravated stalking, burglary, and drug possession. An indictment is only an allegation; all defendants are presumed innocent unless and until proven guilty in a court of law.

Martin Borthagarary has been indicted on the charges of two counts of Criminal Sexual Penetration in the First Degree child Under 13 (first degree felonies) which occurred on or between February 1, 2018 and January 31, 2025. One count of Criminal Sexual Penetration in the Second degree child age 13-18 (second degree felony) which occurred on or between April 7, 2025 and April 13, 2025. Four counts of Criminal Sexual Contact of a Minor child under 13 (second degree felony) on or Between August 1, 2021 and May 31, 2022 and August 10, 2019 and January 31, 2020. Four Counts of Abuse of a Child Does not result in Death or Great Bodily Harm (third degree felony) which occurred on or between August 9, 2020 and April 13, 2025, and December 25, 2024 and April 20, 2025 and April 1, 2023 and August 1, 2023. There was 3 victims involved on the indictments.

Johnny Sanchez-Delara has been indicted on the charges of Criminal Sexual Penetration (Third degree felony) which occurred on or about January 31, 2025.

Timothy Jaramillo has been indicted on the charges of Aggravated Burglary Commits Battery (second degree felony), Battery Against a Household Member (misdemeanor), Deprivation of the Property of a Household Member (misdemeanor), Making a Shooting Threat (misdemeanor), Use of Telephone to Terrify, Intimidate, Threaten, Harass, Annoy or Offend (misdemeanor).

Randy Haskin has been indicted on the charges of Aggravated Stalking Violation of Protection Order (fourth degree felony), Criminal Damage to Property over $1,000 (fourth degree felony), Violation of restraining order prohibited domestic violence (misdemeanor).

Tricia Patton has been indicted on the charges of Aggravated Assault Against a Household Member Deadly Weapon (fourth degree felony) and Aggravated Battery Against a Household Member No Great Bodily Harm (misdemeanor).

Herbert Lewis Welsch III has been indicted on the charges of Non-Residential Burglary (fourth degree felony), Possession of Burglary Tools (fourth degree felony), and Criminal Damage to Property over $1,000 (fourth degree felony).

Joel Rael has been indicted on the charge of Aggravated Indecent Exposure Victim is Less Than 18 Years Old (fourth degree felony).

Justin Dixon has been indicted on the charge of Possession of a Controlled Substance (fourth degree felony).

Shayna Swenke has been indicted on the charge of Embezzled of a Motor Vehicle (fourth degree felony).

Nolan Emerson has been indicted on the charge of Battery Upon a Health Care Worker (fourth degree felony).

Quintin Wengert has been indicted on the charge of Aggravated Stalking Violation of Protection Order (fourth degree felony).

Classifieds

NOTICE

Classified advertisements are subject to the approval of the *Cibola Citizen* staff. The *Cibola Citizen* accepts only standard abbreviations and will spell out abbreviations which are not understandable. We reserve the right to edit and classify advertisements in appropriate classifications. The *Cibola Citizen* will accept no liability more than the agreed-upon cost of the ad for either failure to insert an advertisement or for any errors that appear in the advertisement. The *Cibola Citizen's* liability for errors will not extend beyond the first day the ad is published, and errors must be reported by noon of the business day following publication for corrections to appear in the following publication. Claims for any adjustment must be made within 7 days of publication.

HOUSE FOR RENT

TWO BEDROOM

House for rent. 505-287-2944.

Three-bedroom

house for rent starting at $975 and up. For more info, stop by Rael's General construction, 623 Lava, Milan. 505-287-3450

HOUSE FOR SALE

ReMax Elevate

1708 Encino Grants, N.M. Spacious 4 bedroom, 3 bath, 2,887 sq ft Home for Sale. Call Nadine Marquez, 505-702-8789 or 505-573-0628.

OPEN HOUSE

1708 Encino

OPEN HOUSE, Saturday, 8/23/2025 from 11am-2pm. ReMax Elevate.

ESTATE SALE

1005 Chestnut Ave, Grants.

"ESTATE SALE: SATURDAY ONLY, August 23rd, 8am to 4pm ANTIQUES, Furniture, BOOKS, Household, and Vintage Kitchenware. LOTS OF Original ARTWORK!!! Limited Space, so only allowing in 15 People in at a time. Please be patient! "

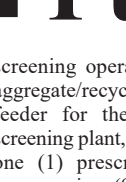
APARTMENTS FOR RENT

FIND YOUR NEW HOME!
1 & 2 BEDROOMS STARTING AT $695 A MONTH
CALL 505-362-6155 OR 505-362-4339
SKY MANAGEMENT & INSURANCE, INC.
CALL TODAY TO HEAR OUR MOVE IN SPECIALS!
Scan QR code to see availability

SPECIAL NOTICE

Health Notes

Telomeres protect the genetic material in every human cell. With aging, they tend to shorten, and this change is associated with increased risk for chronic disease. A study in older adults with low selenium found that oral intake of selenium and coenzyme Q10 could slow or stop the shortening of telomeres over a 4-year study period. Those receiving the treatment had significant lower rates of death due to cardiovascular causes during the follow-up period of 12 years.



T-Bone's Gym 285-6758

MISCELLANEOUS

ADVERTISE YOUR VACATION PROPERTY to more than 185,000 New Mexico newspaper readers. Your 25-word classified ad will appear in 23 newspapers around the state for only $158. Call this newspaper for more details or visit www.nmpress.org for more details.

FREE high speed internet for those that qualify. Government program for recipients of select programs incl. Medicaid, SNAP, Housing Assistance, WIC, Veterans Pension, Survivor Benefits, Lifeline, Tribal. 15 GB internet service. Bonus offer: Android tablet FREE with one-time $20 copay. Free shipping & handling. Call Maxsip Telecom today! 1-888-960-1792

ATTENTION OXYGEN THERAPY USERS! Discover Oxygen Therapy That Moves with You with Inogen Portable Oxygen Concentrators. FREE information kit. Call 866-936-1793

Safe Step. North America's #1 Walk-In Tub. Comprehensive lifetime warranty. Top-of-the-line installation and service. Now featuring our FREE shower package and $1600 Off for a limited time! Call today! Financing available. Call Safe Step 1-855-806-1541

SAVE MONEY ON YOUR HEALTH INSURANCE! Affordable rate on Health Insurance. Let us show you want you can save. Call now! 855-660-1205

Portable Oxygen Concentrator May Be Covered by Medicare! Reclaim independence and mobility with the compact design and long-lasting battery of Inogen One. Free information kit! Call 855-596-2752

Get your deduction ahead of the year-end! Donate your car, truck, or SUV to assist the blind and visually impaired. Arrange a swift, no-cost vehicle pickup and secure a generous year-end tax credit. Call Heritage for the Blind Today at 1-877-613-0103 today!

MISCELLANEOUS

Don't Pay For Covered Home Repairs Again! Our home warranty covers ALL MAJOR SYSTEMS AND APPLIANCES. We stand by our service and if we can't fix it, we'll replace it! Pick the plan that fits your budget! Call: 1-833-816-2128

INJURED IN AN ACCIDENT? Don't Accept the insurance company's first offer. Many injured parties are entitled to cash settlements in the $1000's. Get a free evaluation to see what your case is really worth. 100% Free Evaluation. Call Now: 1-833-763-0280

PEST CONTROL: PROTECT YOUR HOME from pests safely and affordably. Roaches, Bed Bugs, Rodent, Termite, Spiders and other pests. Locally owned and affordable. Call for service or an inspection today! 1-833-549-0572 Have zip code of property ready when calling!

YOU MAY QUALIFY for disability benefits if you are between 52-63 years old and under a doctor's care for a health condition that prevents you from working for a year or more. Call now! 1-833-641-6056

STOP OVERPAYING FOR HEALTH INSURANCE! A recent study shows that a majority of people struggle to pay for health coverage. Let us show you how much you can save. Call Now for a no-obligation quote: 1-833-759-3713

BATH & SHOWER UPDATES in as little as ONE DAY! Affordable prices - No payments for 18 months! Lifetime warranty & professional installs. Senior & Military Discounts available. Call: 1-833-781-0223

Public Notices

LEGAL NOTICE

NOTICE OF PUBLIC AUCTION

WEDNESDAY, NOVEMBER 5, 2025, 10 a.m. 12 SCHOOL RD, SAN FIDEL, N.M. The following vehicle will be sold to satisfy storage debt VICTOR M. OTERO, per N.M. State Law: 1964 CHEVY BEL AIR L6, VIN: 41569S227844, $1,992.77 **NO PRIOR VIEWING**

Published in the Cibola Citizen
August 13, 20, 2025
Invoice #1102.

LEGAL NOTICE

NOTICE OF PUBLIC AUCTION

MONDAY, NOVEMBER 10, 2025, 10 a.m. 90 CUBERO LP, CUBERO, NM. The following vehicle will be sold to satisfy storage debt MICHAEL S. GRIEGO, per NM state law: 1956 CHEVY 3100, VIN: 3B56L009947, $1,992.77 NO PRIOR VIEWING

Published in the Cibola Citizen
August 13, 20, 2025
Invoice #1103.

LEGAL NOTICE

NOTICE OF AIR QUALITY PERMIT APPLICATION

Strickland Services (Strickland), LLC announces its application submittal to the New Mexico Environment Department for a new minor source NSR permit application for an Air Quality Permit. The permit is for the Strickland's aggregate processing facility, which processes aggregate and recycled material. The expected date of application submittal to the Air Quality Bureau is August 22, 2025.

The address for the facility known as, Strickland Aggregate Crusher Plant, is 1629 Sakelares Blvd., Grants, NM 87020. The exact location of the Strickland Aggregate Crusher Plant is at Latitude (decimal degrees): 35.13631 and Longitude (decimal degrees): -107.81970. The approximate location of this facility is 1.5 miles southeast of Grants in Cibola County.

The function of the facility is to crush and screen aggregate and/or recycle material from on-site storage piles into usable material.

The 300 tph crushing and screening operations will include an aggregate/recycle raw materials pile, a feeder for the crushing plant and screening plant, one (1) impact crusher, one (1) prescreen, one (1) 3-deck screen, nine (9) transfer conveyors, and four (4) stacker conveyors. The crushing plant will be powered by a 416 horsepower (hp) (314 kW) engine. The screening plant will be powered by a 225 horsepower (hp) (168 kW) engine. Aggregate/recycle material will be delivered to the site by truck and stored in the raw material aggregate/recycle storage pile. Material from the raw material aggregate/recycle storage pile will first be processed through the crushing plant. Processed material from the crushing plant will be fed through the screening plant. From the screening plant the processed material will be sent to the finish storage piles until transported from the facility to off-site sales. The crushing and screening plants will limit the processing rate to 300 tons per hour (tph) and 350,000 tons per year (tpy).

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

Pollutant:	Maximum Pounds per hour	Maximum Tons per year
PM 10	6.84 pph	3.70 tpy
PM 2.5	1.03 pph	0.61 tpy
Sulfur Dioxide (SO2)	0.0068 pph	0.012 tpy
Nitrogen Oxides (NOx)	0.29 pph	0.53 tpy
Carbon Monoxide (CO)	1.35 pph	2.47 tpy
Volatile Organic Compounds (VOC)	0.08 pph	.15 tpy
Total sum of all Hazardous Air Pollutants (HAPs)	0.027 pph	0.049 tpy
Toxic Air Pollutant (TAP)	0.00017 pph	0.00030 tpy
Green House Gas Emissions as Total CO2e	n/a	1255 tpy

The maximum operating schedule for material processing is 11 hours per day (7 am to 6 pm) for the months of April through August, 9 hours per day (8 am to 5 pm) for the month of March, 9.5 hours per day (8 am to 5:30 pm) for the month of September, and 7 hours per day (9 am to 4 pm) for the months of November through February, 7 days per week, and 52 weeks per year. The standard schedule for material processing is 9 hours per day. To allow for engine warmup, plant engines will be allowed to startup one hour prior to material processing.

The owner and/or operator mailing address for the Facility is:
Strickland Services, LLC
1530 Ice Caves Rd.
Grants, NM 87020-9501

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. Other comments and questions may be submitted verbally. (505) 476-4300; 1 800 224-7009.

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.

Attención

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 505-629-3395.

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Published in the Cibola Citizen
August 20, 2025
Invoice #1104.

PUBLIC NOTICE
DISCHARGE PERMIT RENEWAL

Cebolleta Land Grant proposes to discharge up to 24,000 gallons per day of domestic waste water to a disposal system. Discharge location: State Road 279, approximately 0.7 miles southeast of Bibo in the Cebolleta Land Grant. For additional information, contact the New Mexico Environment Department and reference: DP-138 PN1.

PAVISO PUBLICO
RENOVACION DE PERMISO DE DESCARGA

La concesion de tierras de Cebolleta propone descargar hasta 24,000 galones por día de aguas residuales domesticas a un sistema de eliminación. Sitio de descarga: la carretera estatal 279, aproximadamente a 0.7 milla al sureste de Bibo en la concesión de tierras de Cebolleta. Para información adicional comuníquese con el Departamento de Medio Ambiente de Nuevo Mexico y ponga la referencia: DP-138 PN1

505-827-2900 https://www.env.nm.gov/public-notices/

CEMETERY BOARD

On **9/3/2025**, the **Cemetery Board** will meet at **4:30 PM** at the City Hall Council Chambers, 600 W. Santa Fe Ave., Grants, NM. Agendas will be available on **8/29/2025** at **https://www.grantsnm.gov/Government/Boards-Committees**

If you are an individual with a handicap/disability and require a type of auxiliary aid or service to participate in city meetings, please contact the city clerk at 287-7927 at least one week in advance of the scheduled meeting or as soon as possible to make necessary arrangements.

PLANNING & ZONING COMMISSION

On **9/10/2025**, the **Planning & Zoning Commission** will meet at **5:30 PM** at the City Hall Council Chambers, 600 W. Santa Fe Ave., Grants, NM. Agendas will be available on **9/5/2025** at **https://www.grantsnm.gov/Government/Boards-Committees**

If you are an individual with a handicap/disability and require a type of auxiliary aid or service to participate in city meetings, please contact the city clerk at 287-7927 at least one week in advance of the scheduled meeting or as soon as possible to make necessary arrangements.

Community Schedule

August 20

What? Community Meet & Greet – World Breastfeeding Awareness Month
When? August 20th at 4 pm – 5:30 pm
Where? Community Room at Cibola General Hospital. Any questions call/text 505-274-3093

August 21

What? Grants Community Pantry Grand Opening:
When? Aug 21, 1-3 pm. Call 505-287-5090
Where? 916 Sakelares, Grants, Thursday,

August 23rd

What? 3rd Annual Wings N' Wheels
When? August 23rd at 8 am – 2 pm
Where? Grants-Milan Municipal Airport

What? Pearls & Poker
When? August 23rd at 5 pm – 11 pm
Where? At the Elks, 805 Charles St.

September 13

What? Route 66 Centennial Kick-Off
When? September 13
Where? Join us to celebrate the Route 66 in Grants! Kick off the day with a 6.6 mile run, then enjoy food trucks, a farmers market, bounce houses, raffles, music, and MainStreet Centennial celebrations! More Details Coming Soon!

September 20

What? Renaissance Faire
When? September 20
Where? 805 Charles St. at the Elks

October 3rd – 4th

What? Quilt Show – Mt Taylor Quilt Guild
When? October 3rd – 4th
Where? 1500 N Third St. For more information please contact: jane.williams.1988@gmail.com or valdez.cheryl@gmail.com

Every Tuesday

Baby & Me: Infant Feeding + Baby Care Group Every Tuesday – 10:45 am – 12:15 pm. Grants Public Library in the Private Reading Room.

Foster Grandparent/Senior Companion Program. Contact Dorela Chavez at: Cibola Senior Center (505) 285-3932

Every Wednesday

What? Bible Study - Pastor Ryan
When? Wednesday at 6:00 pm
Where? First United Methodist Church.

Womens Empowerment Group

Every Wednesday 4pm-5:30pm Gd Psych Services LLC Call (505)218-6383 for more information.

AWANA

First Baptist Church hosts AWANA Program, 6-7:30 p.m. Call 505-240-0555 for more information.

American Legion Post 80 Pool Tournament

Starts at 7 p.m. Pool Tournament at Post 80, 121 S. Third Street, Grants. Call 505-287-5179 for more information.

Sit and Sew with Mt. Taylor Quilt Guild

On Wednesday at 10 a.m. @ the Methodist Church, 510 N. First Street, Grants, Visitors welcome

Every Thursday

Grants/Milan Rotary Club

1st, 3rd & 4th Thursday 12:00 noon, 2nd Thursday will be Business El Cafecito meeting room.

Cibola County History Museum

525 W. High @ 10 am to 12 pm

Narcotics Anonymous Meeting We Do Recover

– 7pm Thursdays at Day Spring Baptist Church, 41 First Street Thoreau. No dues or fees. Open to all wanting to recover from addiction. Zoom options available. For more information call Jared 760-819-5637.

Tot & Me Time at the Library

Every Thursday 10:45 – 11:15 am. Grants Public Library

12 Steps to Recovery

6:30 p.m. at Zion Ministries, 511 W. Highway 66, Milan. Call 505-240-1104 & 505-489-9869 for more information.

Every Friday

American Legion Post 80 Karaoke night

7 p.m. Karaoke night at Post 80, 121 S. Third Street, Grants. Call 505-287-5179 for more info.

Every Saturday

Cibola County History Museum

525 W. High @ 9am-2 pm

Aviation Museum

1116 N. Dale Carnutte Rd. @ 9 am to 1 pm

Grants Library - Chess Night at the Library

Weekly on Saturdays at 1:00PM at the Grants Public Library. Its FREE and open to all ages.

First Wednesday

Grants MainStreet Project Board Meeting

Meet at 5:30 p.m. at 523 W. Santa Fe Ave. Grants, NM 87020. Meetings are open to the public.

Donuts with a Cop!

The Milan Police Department holds a community meeting on the first Wednesday of each month at **10 a.m.** in the Recreation Building at 407 Airport Rd. in Milan.

First Thursday

Cibola County Historical Society Board Meeting

10 a.m. – 1 p.m. 525 W. High St., Grants. Meetings are open to public. Call 505-287-2630 or visit cibolahistory.org for more info.

Second Tuesday

Acoma Veterans

The Acoma American Legion Chavez and Vallo Post 116, @ the Gerald G. Chino Hall at 68 Pinsbarri Rd. in the Pueblo of Acoma, N.M. For more info call 505-280-8519 or 505-263-3244.

Third Thursday

Cibola Crimestoppers Meeting

Meets the 3rd Thursday of every month (except December) at 10:00 a.m. at the Cibola County Sheriff's Office, 2001 Clif Lear Ave [the old Armory]. Public welcome!

Second Saturday

Mt. Taylor Quilt Guild

Mt. Taylor Quilt Guild meets monthly at 10:00am on the 2nd Saturday at the Methodist Church, 510 N. 1st Street, Grants, Visitors welcome

Ongoing

Foster Grandparent/Senior Companion Program

Contact Dorela Chavez at: Cibola Senior Center (505) 285-3932

Book Talk Meeting

First Wednesday at 1 p.m., Grants Public Library, 1101 N. First St., Grants. Call 505-287-4793

Alcoholics Anonymous

Wednesday, and Friday at noon, 411 E. Santa Fe Ave., #4, Grants. Call 505-290-1480, no text please.

Bridge Group

The Grants Bridge Group is looking for new players. Call 240-478-7317 for further info.

Free Development Screening

Call (505)285-2643 for more information or to make an appointment.

Grants Public Library Starting July 1st Copies will be $0.25 for Black & White and $0.50 for Color

The Sharing Closet

Mon-Fri 9am-4pm Call (505) 287-4793 for more information.

Grants Bridge Group is looking for new members. Call 240.478.7317 for more info.

Calling All Poets Poetry

Submissions send to cibolaarts66@gmail.com or mail to Cibola Arts Council 1001 W. Santa Fe Grants, NM 87020

Recycle Cibola Only mixed paper and corrugated cardboard are being collected. Mon, Wed, & Fri 8am-4pm at Smith's Tuesday & Thursday 8am-4pm at John Brooks.

If there are any announcements you would like included in the community schedule, please send a brief description of the event, a time and location with contact information. The announcement will run at no charge if it is 15-20 words. Email your announcement to editor@cibolacitizen.com or drop off at the office 200 W. Santa Fe Ave.

PROOF OF PUBLICATION

The following legal notice has been published in THE CIBOLA CITIZEN, a weekly newspaper published in Grants, Cibola County, State of New Mexico.

Legal

in said newspaper for One (1) time(s) on the following date(s):

8/20

SIGNED: K A

TITLE: K. Brett Wesner, Publisher

Sworn and subscribed before me this 20 day of August, 2025

Sylvia Anzures Gonzales
Notary Public Signature

STATE OF NEW MEXICO
NOTARY PUBLIC
SYLVIA ANZURES GONZALES
Commission Number 1123309
My Commission Expires September 24, 2026

Legal Cost: $ 233.54

PROOF OF PUBLICATION

The following legal notice has been published in THE CIBOLA CITIZEN, a weekly newspaper published in Grants, Cibola County, State of New Mexico.

Legal Display Ad

in said newspaper for One (1) time(s) on the following date(s):

8/20

SIGNED: [signature]

TITLE: K. Brett Wesner, Publisher

Sworn and subscribed before me this 20 day of August, 2025

[signature]
Notary Public Signature

STATE OF NEW MEXICO
NOTARY PUBLIC
SYLVIA ANZURES GONZALES
Commission Number 1123309
My Commission Expires September 24, 2026

Legal Cost: $518.40

PUBLIC SERVICE ANNOUNCEMENT

Strickland Services, LLC announces its application submittal to the New Mexico Environment Department for a new minor source NSR permit application for an Air Quality Permit. The permit is for the Strickland's aggregate processing facility, which processes aggregate and recycled material. The expected date of application submittal to the Air Quality Bureau is August 22, 2025.

The address for the facility known as, Strickland Aggregate Crusher Plant, is 129 Sakelares Blvd., Grants, NM 87020. The exact location of the Strickland Aggregate Crusher Plant is at Latitude (decimal degrees): 35.13631 and Longitude (decimal degrees): -107.81970. The approximate location of this facility is 1.5 miles southeast of Grants in Cibola County.

The function of the facility is to crush and screen aggregate and/or recycle material from on-site storage piles into usable material.

Public notices have been posted in the following locations for review by the public:

1. 13th Judicial District Court Cibola County at 700 E. Roosevelt Ave, Grants, NM;
2. US Post Office at 116 Main St., San Rafael, NM;
3. Grants Public Library at 1101 N. First St., Grants, NM;
4. At the main entrance to the Strickland Aggregate Crusher Plant at 129 Sakelares Blvd, Grants, NM.

The owner and/or operator mailing address for the Facility is:

Strickland Services, LLC
1530 Ice Caves Rd.
Grants, NM 87020-9501

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
Telephone Number (505) 476-4300 or 1 800 224-7009

August 22, 2025

KDSK Radio
733 E. Roosevelt Ave
Grants, NM 87020

CERTIFIED MAIL

Dear KDSK Radio:

SUBJECT: PSA Request - Proposed New Air Quality Construction Permit Strickland Services, LLC – Strickland Aggregate Crusher Plant at 129 Sakelares Blvd., Grants, NM.

Attached is a copy of a public service announcement regarding a proposed new air quality construction permit application for Strickland Services, LLC – Strickland Aggregate Crusher Plant. This announcement is being submitted by Montrose Environmental Solutions, Inc., Albuquerque, NM on behalf of Strickland Services, LLC.

The announcement request is being made to fulfill the requirements of the New Mexico Environmental Department air quality permitting regulations. Please consider reading the attached announcement as a public service message.

If you have any questions or need additional information, please contact me at (505) 830-9680 ext 6 (voice), (505) 830-9678 (fax) or email at pwade@montrose-env.com.

Thank you.

Sincerely,

Paul Wade

Paul Wade
Senior Associate Engineer

Montrose Environmental Solutions, Inc.
9100 2nd St., Suite 200
Albuquerque, NM 87114-1664

T: 505.830.9680 ext. 6
F: 505.830.9678
Pwade@montrose-env.com
www.montrose-env.com

Submittal of Public Service Announcement – Certification

I, Paul Wade, the undersigned, certify that on August 22, 2025, submitted a public service announcement to KDSK Radio that serves the City of Grants, Cibola County, New Mexico, in which the source is proposed to be located and that KDSK Radio DID NOT RESPOND.

Signed this 22 day of August, 2025,

Paul Wade

Signature

August 22, 2025

Date

Paul Wade

Printed Name

Air Quality Consultant – Montrose Environmental Solutions, Inc.

Title {APPLICANT OR RELATIONSHIP TO APPLICANT}



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

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

Grants, NM 87020

OFFICIAL USE

Certified Mail Fee $5.30

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 $

Postage $0.72

Total Postage and Fees $6.02

Postmark Here

AUG 22 2025

08/22/2025

KDSK Radio
733 E. Roosevelt Ave
Grants, NM 87020

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7022 3330 0001 7205 2876

Section 10

Written Description of the Routine Operations of the Facility

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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 Strickland Services, LLC's Strickland Aggregate Crusher Plant consists of an aggregate/recycle raw materials pile, a feeder for the crushing plant and screening plant, one (1) impact crusher, one (1) prescreen, one (1) 3-deck screen, nine (9) transfer conveyors, and four (4) stacker conveyors. The crushing plant will be powered by a 416 horsepower (hp) (314 kW) engine (Unit 8). The screening plant will be powered by a 225 horsepower (hp) (168 kW) engine (Unit 20). Aggregate/recycle material will be delivered to the site by truck and stored in the raw material aggregate/recycle storage pile. Material from the raw material aggregate/recycle storage pile will first be processed through the crushing plant. Processed material from the crushing plant will be fed through the screening plant. From the screening plant the processed material will be sent to the finish storage piles until transported from the facility to off-site sales.

Raw material is trucked into the facility and placed into the Raw Material Pile (Unit RAW). A front-end loader will transport from the raw material pile to the crusher plant feeder (Unit 1). From the feeder, material is processed through the impact crusher (Unit 2) then transferred by the impact crusher under conveyor (Unit 3) to the prescreen (Unit 4). At the prescreen, oversized material is removed by transfer conveyors (Units 6, 7) back to the impact crusher. Product material from the screen is transferred by conveyor (Unit 5) to the screening plant feeder (Unit 9). From here material is conveyed (Unit 10) to the 3-deck screen (Unit 11). Screened 3/4" material is transferred to a stacker storage pile by an screen under conveyor (Unit 12) and stacker conveyor (Unit 13). Screened 1/2" material is transferred to a stacker storage pile by a screen under conveyor (Unit 14) and stacker conveyor (Unit 15). Screened fine material is transferred to a stacker storage pile by a screen under conveyor (Unit 16) and stacker conveyor (Unit 17). Oversized material is transferred to a stacker storage pile by a screen under conveyor (Unit 18) and stacker conveyor (Unit 19). Material is transported by front-end loader from the stacker storage piles to the finish storage piles (FPILE).

Fugitive dust generated during aggregate processing will be controlled by the inherent moisture content of the material and a "Wet Dust Suppression System" to no more than 7% opacity at screening and conveyor transfer points and 12% opacity at crushing operations. No fugitive dust controls are proposed for the raw material storage pile (Unit RAW), feeder loading (Unit 1) or finish storage piles (Unit FPILE).

Truck traffic (ROAD) will be limited to a maximum 70 trucks per day. Fugitive road dust will be controlled by basecourse and watering to reduce excess fugitive emissions.

A process flow diagram is presented as Figures 4-1 in Section 4. A facility layout is presented as Figure 5-1 in Section 5.

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)**:** Strickland Aggregate Crusher Plant, the requested air quality permitted source only

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.

X Yes ☐ **No**

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

X Yes ☐ **No**

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

X Yes ☐ **No**

C. Make a determination:

X 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:

- **X** **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:**

a. **NOx: 0.53 TPY**
b. **CO: 2.47 TPY**
c. **VOC: 0.15 TPY**
d. **SOx: 0.012 TPY**
e. **PM: 9.83 TPY**
f. **PM10: 3.70 TPY**
g. **PM2.5: 0.61 TPY**
h. **Fluorides: 0.0 TPY**
i. **Lead: 0.000069 TPY**
j. **Sulfur compounds (listed in Table 2): 0.0 TPY**
k. **GHG: 1255 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 RELEVENT 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/

To save paper and to standardize the application format, delete this sentence, and begin your submittal for this attachment on this page.

Table for State Regulations:

State Regulation 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.
20.2.7 NMAC	Excess Emissions	Yes	Facility	This facility is subject to emissions limits in a permit or numerical emissions standards in a federal or state regulation.
20.2.61.109 NMAC	Smoke & Visible Emissions	Yes	8, 20	Units 8 and 20 is limited to opacity of 20% per 20.2.61.109 NMAC.
20.2.70 NMAC	Operating Permits	No	Facility	The facility does not have potential to emit (PTE) of 100 tpy or more of any regulated air pollutant other than HAPs; and/or a HAPs PTE of 10 tpy or more for a single HAP or 25 or more tpy for combined HAPs
20.2.71 NMAC	Operating Permit Fees	No	Facility	If subject to 20.2.70 NMAC and your permit includes numerical ton per year emission limits, you are subject to 20.2.71 NMAC and normally applies to the entire facility.
20.2.72 NMAC	Construction Permits	Yes	Facility	Strickland is applicable to “Construction Permit” 20.2.72 NMAC.
20.2.73 NMAC	NOI & Emissions Inventory Requirements	Yes	Facility	The facility is applicable to the Emissions Inventory Reporting per 20.2.73.300 NMAC since the facility is subject to 20.2.72.
20.2.74 NMAC	Permits – Prevention of Significant Deterioration (PSD)	No	Facility	The facility is not a major PSD source
20.2.75 NMAC	Construction Permit Fees	Yes	Facility	This regulation applies to this facility since Strickland is applying for a permit pursuant to 20.2.72 NMAC.
20.2.77 NMAC	New Source Performance	Yes	2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 8, 20	This is a stationary source which is subject to the requirements of 40 CFR Part 60, Subpart OOO or stationary sources subject to the requirements of 40 CFR Part 60, Subpart IIII.
20.2.78 NMAC	Emission Standards for HAPS	No	Units Subject to 40 CFR 61	This facility does not emit hazardous air pollutants which are subject to the requirements of 40 CFR Part 61.
20.2.80 NMAC	Stack Heights	No		No citation applicable.

State Regulation 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.)
20.2.82 NMAC	MACT Standards for source categories of HAPS	Yes	8, 20	This facility is potentially subject to the requirements of 40 CFR Part 63, Subpart ZZZZ.

Table for Applicable Federal Regulations:

Federal Regulation Citation	Title	Applies? Enter Yes or No	Unit(s) or Facility	Justification:
40 CFR 50	NAAQS	Yes	Facility	Defined as applicable at 20.2.72. Any national ambient air quality standard
NSPS 40 CFR 60, Subpart A	General Provisions	Yes	2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 8, 20	Subparts IIII and OOO in 40 CFR 60 apply to this facility.
NSPS 40 CFR 60, Subpart 000	Standards of Performance for Nonmetallic Mineral Processing Plants	Yes	2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19	The provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart.
NSPS 40 CFR 60 Subpart IIII	Standards of performance for Stationary Compression Ignition Internal Combustion Engines	Yes	8, 20	If the plant is only located at the site for less than 12 months, the plant engine is defined by EPA as a "non-road" engine, and as such is not applicable to 40 CFR Part 60 Subpart IIII. If the plant operates at the site for more than 12 months, Units 8 and 20 would then be applicable to Subpart IIII.
NESHAP 40 CFR 61 Subpart A	General Provisions	No	Units Subject to 40 CFR 61	Applies if any other Subpart in 40 CFR 61 applies.
MACT 40 CFR 63, Subpart A	General Provisions	Yes	8,20	Applies if any other Subpart in 40 CFR 63 applies.
MACT 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (**RICE MACT**)	Yes	8, 20	If the plant is only located at the site for less than 12 months, the plant engine is defined by EPA as a "non-road" engine, and as such is not applicable to 40 CFR Part 63 Subpart ZZZZ. If the plant operates at the site for more than 12 months, Units 8 and 20 would then be applicable to Subpart ZZZZ. If Units 8 and 20 meets the requirement of Subpart IIII it also meets the requirement of Subpart ZZZZ.

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.

The preliminary operational plan defining the measures to be taken to mitigate source emissions during malfunction, startup, or shutdown are as follows:

STARTUP AND SHUTDOWN PROCEDURES

Water Truck

Startup

Check water supply, inspect nozzles and open all associated valves before startup.

Shutdown

Inspect nozzles and close all associated valves after shutdown.

Processing Plant Water Spray Dust Suppression System

Startup

Daily visual inspection of water spray operation prior to material processing. All plant water sprays, required to maintain opacity limits to required levels, will be operational prior to material processing.

Shutdown

No additional requirements are proposed.

OPERATIONS PLAN

Water Truck Operation

A water truck to be operated, as needed, at plant site disturbed areas, storage piles, and haul truck traffic areas to prevent excess visible emissions. These activities include unpaved haul roads, storage piles and active disturbed

areas. Water spray application rate will be determined based on the occurrence of visible dust and may vary depending on existing road conditions, traffic, wind, temperature, and precipitation.

Processing Plant Water Spray Dust Suppression System

Water spray dust suppression will be operated at all times when pertinent equipment is operating to maintain equipment opacity limits.

MAINTENANCE PLAN

Water Truck Maintenance

A safety check and equipment check will be conducted daily. Normal vehicle maintenance will be performed regularly or as needed.

Processing Plant Water Spray Dust Suppression Maintenance

Visual inspections will be made monthly to verify proper functioning of control equipment. When emissions are suspected to approach compliance values, equipment will be checked for problems and repaired.

No startup/shutdown emission rates are expected to be greater than what is proposed for normal operations of the plant. All controls will be operating and functioning correctly prior to the start of production.

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: www.env.nm.gov/air-quality/permitting-section-procedures-and-guidance/. 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.

NA

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)	
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:	Strickland Aggregate Crusher Plant
2	Name of company:	Strickland Services, LLC (Strickland)
3	Current Permit number:	New Permit
4	Name of applicant's modeler:	Paul Wade
5	Phone number of modeler:	505 830-9680 x6
6	E-mail of modeler:	pwade@montrose-env.com

16-B: Brief

1	Was a modeling protocol submitted and approved? Submitted - 7/28/2025	Yes☒	No☐
2	Why is the modeling being done?	New Facility	
3	Describe the permit changes relevant to the modeling.		
	New Facility		
4	What geodetic datum was used in the modeling?	NAD83	
5	How long will the facility be at this location?	>1 Year, Relocation Allowed	
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	156	
8	List the PSD baseline dates for this region (minor or major, as appropriate).		
	NO2	N/A	
	SO2	08/04/1978	
	PM10	08/04/1978	
	PM2.5	N/A	
9	Provide the name and distance to Class I areas within 50 km of the facility (300 km for PSD permits).		
	None, closest is San Pedro Parks Wilderness – 132 km		
10	Is the facility located in a non-attainment area? If so describe below	Yes☐	No☒
11	Describe any special modeling requirements, such as streamline permit requirements.		

16-C: Modeling History of Facility

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
1	CO	New Permit		
	NO_2	New Permit		
	SO_2	New Permit		
	H_2S	N/A		
	PM2.5	New Permit		
	PM10	New Permit		
	Lead	New Permit		
	Ozone (PSD only)	Not a PSD Source		
	NM Toxic Air Pollutants (20.2.72.402 NMAC)	N/A		

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	☒	☐	☐	☐	☐
NO_2	☒	☒	☐	☐	☐
SO_2	☒	☐	☐	☐	☐
H_2S	☐	☐	☐	☐	☒
PM2.5	☒	☒	☐	☐	☐
PM10	☒	☒	☐	☐	☐
Lead	☒	☐	☐	☐	☐
Ozone	☐	☐	☐	☒	☐
State air toxic(s) (20.2.72.402 NMAC)	☐	☐	☐	☒	☐

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.

2

List any NMTAPs that are emitted but not modeled because stack height correction factor. Add additional rows to the table below, if required.

Pollutant	Emission Rate (pounds/hour)	Emission Rate Screening Level (pounds/hour)	Stack Height (meters)	Correction Factor	Emission Rate/ Correction Factor
N/A					

16-F: Modeling options

1

Was the latest version of AERMOD used with regulatory default options? If not explain below.	Yes☒	No☐

Version 24142

16-G: Surrounding source modeling

1

Date of surrounding source retrieval	07/16/2025

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.

PM10 and PM2.5 GCP emission sources were set to 71.25 tpy and 17.875 tpy, respectively.
GCP2 and GCP3 hours of operation were limited to daylight hours only.

	AQB Source ID	Description of Corrections
	1766E2	Location was changed from 18767812.4E; 0N to 233349.65E; 3900957.32N

16-H: Building and structure downwash

1	How many buildings are present at the facility?	None	
2	How many above ground storage tanks are present at the facility?	1	
3	Was building downwash modeled for all buildings and tanks? If not explain why below.	Yes☐	No☒
	No buildings or tanks that would influence point source emissions		
4	Building comments		

16-I: Receptors and modeled property boundary

1	"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. Describe the fence or other physical barrier at the facility that defines the restricted area.					
	Fencing and Gate with sign					
2	Receptors must be placed along publicly accessible roads in the restricted area. Are there public roads passing through the restricted area?				Yes☐	No☒
3	Are restricted area boundary coordinates included in the modeling files?				Yes☒	No☐
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
	Very Fine	Cartesian	50 meters	Border	500 Meters	
	Very Fine	Cartesian	100 meters	500 Meters	1 Kilometers	
	Fine	Cartesian	250 meters	1 Kilometers	3 Kilometers	
	Course	Cartesian	500 meters	3 Kilometers	5 Kilometers	
	Course	Cartesian	1000 meters	10 Kilometers	50 Kilometers	
5	Describe receptor spacing along the fence line.					
	25 Meters					
	Describe the PSD Class I area receptors.					

6	NA

16-J: Modeling Scenarios

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).

1

The facility hours of operation are presented below in Table 1. The hours below are for the aggregate plant engines, Units 8 and 20. This allows for warm up of the engines before material processing. Processing of material will begin an hour after the engines are allowed to operate, so an hour later than what is listed in the table. The aggregate crushing plant will limit the daily throughput per month to the values listed in Table 2. For combustion modeling hours of operation are found in Table 1.

TABLE 1: Aggregate Crusher Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
7:00 AM	0	0	1	1	1	1	1	1	1	0	0	0
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	0	0	1	1	1	1	1	1	1	0	0	0
5:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	8	8	10	12	12	12	12	12	10.5	8	8	8

TABLE 2: Aggregate Daily Production Rates

Month	Tons Per Day
January	1200
February	1200
March	2100
April	2100
May	2100
June	2100
July	2100
August	2100
September	2100
October	1500
November	1500
December	1200

Since the daily production rate is less than the proposed hours of operation running at maximum hourly production rate, two modeling scenarios was performed, one for morning and one for afternoon hours. The model hours for particulate modeling are presented in Tables 3 and 4.

TABLE 3: Aggregate Crusher Morning Modeled Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
8:00 AM	0	0	1	1	1	1	1	1	1	0	0	0
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
2:00 PM	0	0	1	0	0	0	0	0	1	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	4	7	7	7	7	7	7	7	5	5	4

TABLE 4: Aggregate Crusher Afternoon Modeled Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	1	0	0	0	0	0	0.5	0	0	0
11:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	0	0	1	1	1	1	1	1	1	0	0	0
5:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	4	7	7	7	7	7	7	7	5	5	4

2	Which scenario produces the highest concentrations? Why?		
	Both scenarios for particulate modeling gave similar results. Scenario 1 has early morning hours and Scenario 2 has early evening hours. These hours consist of low wind speeds and stable boundary layers.		
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☐	No☒
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	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☒	No☐
	For PM2.5 annual modeling an hourly factor was used to account for the difference in hourly throughput and annual throughput. Based on the facility operating at 300 tons per hour and the daily throughput limits found in Table 2 above, this is equivalent to 2163 hours per year or 648,900 tons per year. Since the annual production limit is 350,000 tons per year and the production, based on maximum hourly production and hours based on daily throughput limits, an hourly factor of 0.54 (350,000/648,900) was used in the annual PM2.5 modeling.		

16-K: NO_2 Modeling

1	Which types of NO_2 modeling were used? Check all that apply.	
	☒	ARM2 – Initial Site
	☐	100% NO_X to NO_2 conversion
	☐	PVMRM
	☐	OLM
	☐	Other:
2	Describe the NO_2 modeling.	
	Modeling for the two plant engines was modeled using ARM2.	
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☒ No☐
4	Describe the design value used for each averaging period modeled.	
	1-hour: 98th percentile as calculated by AERMOD Annual Highest Annual Average of Three Years:	

16-L: Ozone Analysis

1	NMED has performed a generic analysis that demonstrates sources that are minor with respect to PSD do not cause or contribute to any violations of ozone NAAQS. The analysis follows. The basis of the ozone SIL is documented in *Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program*, EPA, April 17, 2018 and associated documents. NMED accepts this SIL basis and incorporates it into this permit record by reference. Complete documentation of the ozone concentration analysis using MERPS is included in the New Mexico Air Quality Bureau Air Dispersion Modeling Guidelines.
2	The MERP values presented in Table 10 and Table 11 of the NM AQB Modeling Guidelines that produce the highest concentrations indicate that facilities emitting no more than 250 tons/year of NO_X and no more than 250 tons/year of VOCs will cause less formation of O_3 than the O_3 significance level.

	$$[O_3]_{8-hour} = \left(\frac{250 \frac{ton}{yr}}{340_{MERP_{NOX}}} + \frac{250 \frac{ton}{yr}}{4679_{MERP_{VOC}}} \right) \times 1.96\ \mu g/m^3$$ =1.546 µg/m^3, which is below the significance level of 1.96 µg/m^3. Sources that produce ozone concentrations below the ozone SIL do not cause or contribute to air contaminant levels exceeding the ozone NAAQS.

3	Does the facility emit at least 250 tons per year of NO_X or at least 250 tons per year of VOCs? Sources that emit at least 250 tons per year of NO_X or at least 250 tons per year of VOCs are covered by the analysis above and require an individual analysis.	Yes☐	No☒

5	For new PSD Major Sources or PSD major modifications, if MERPs were used to account for ozone fill out the information below. If another method was used describe below.				
	NO_X (ton/yr)	$MERP_{NOX}$	VOCs (ton/yr)	$MERP_{VOC}$	$[O_3]_{8\text{-hour}}$

16-M: Particulate Matter Modeling

1	Select the pollutants for which plume depletion modeling was used.	
	☐	PM2.5
	☒	PM10
	☐	None

2

Describe the particle size distributions used. Include the source of information.

PM_{10} emissions may be modeled using plume deposition. Plume deposition simulates the effect of gravity as particles "fall-out" from the plume to the ground as the plume travels downwind. Therefore, the farther the plume travels from the emission point to the receptor, the greater the effect of plume deposition and the greater the decrease in modeled impacts or concentrations. Particle size distribution, particle mass fraction, and particle density are required inputs to the model to perform this function.

Particle size distribution for fugitive road dust on unpaved roads; material handling fugitive emissions; and combustion will use the particle size distribution found in the NMED Modeling Section approved values.

The mass-mean particle diameters were calculated using the formula:

$$d = ((d^3_1 + d^2_1 d_2 + d_1 d^2_2 + d^3_2) / 4)^{1/3}$$

Where: d = mass-mean particle diameter
d_1 = low end of particle size category range
d_2 = high end of particle size category range

Representative average particle densities were obtained from NMED accepted values.

Material	Density (g/cm^3)	Reference
Road Dust	2.5	NMED Value
Combustion	1.5	NMED Value
Fugitive Dust	2.5	NMED Value

The size distribution for PM_{10} emission sources are presented below.

Road Vehicle Fugitive Dust Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 – 2.5	1.57	25.0	2.5
2.5 – 10	6.91	75.0	2.5

Based on NMED Model Guideline – June 2024 (Vehicle Fugitive)

Combustion Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	100.0	1.5

Based on NMED Model Guideline – June 2024 (Combustion)

Material Handling (Fugitive) Dust Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	7.8	2.5
2.5 – 5	3.88	27.0	2.5
5 – 10	7.77	65.2	2.5

Based on NMED Model Guideline – June 2024 (Coal Handling)

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☐	No☒
4	Was secondary PM modeled for PM2.5?	Yes☐	No☒
5	If MERPs were used to account for secondary PM2.5 fill out the information below. If another method was used describe below.		

Pollutant	NO_X	SO_2		$[PM2.5]_{24\text{-hour}}$

	$MERP_{annual}$				
	$MERP_{24\text{-}hour}$				$[PM2.5]_{annual}$
	Emission rate (ton/yr)				

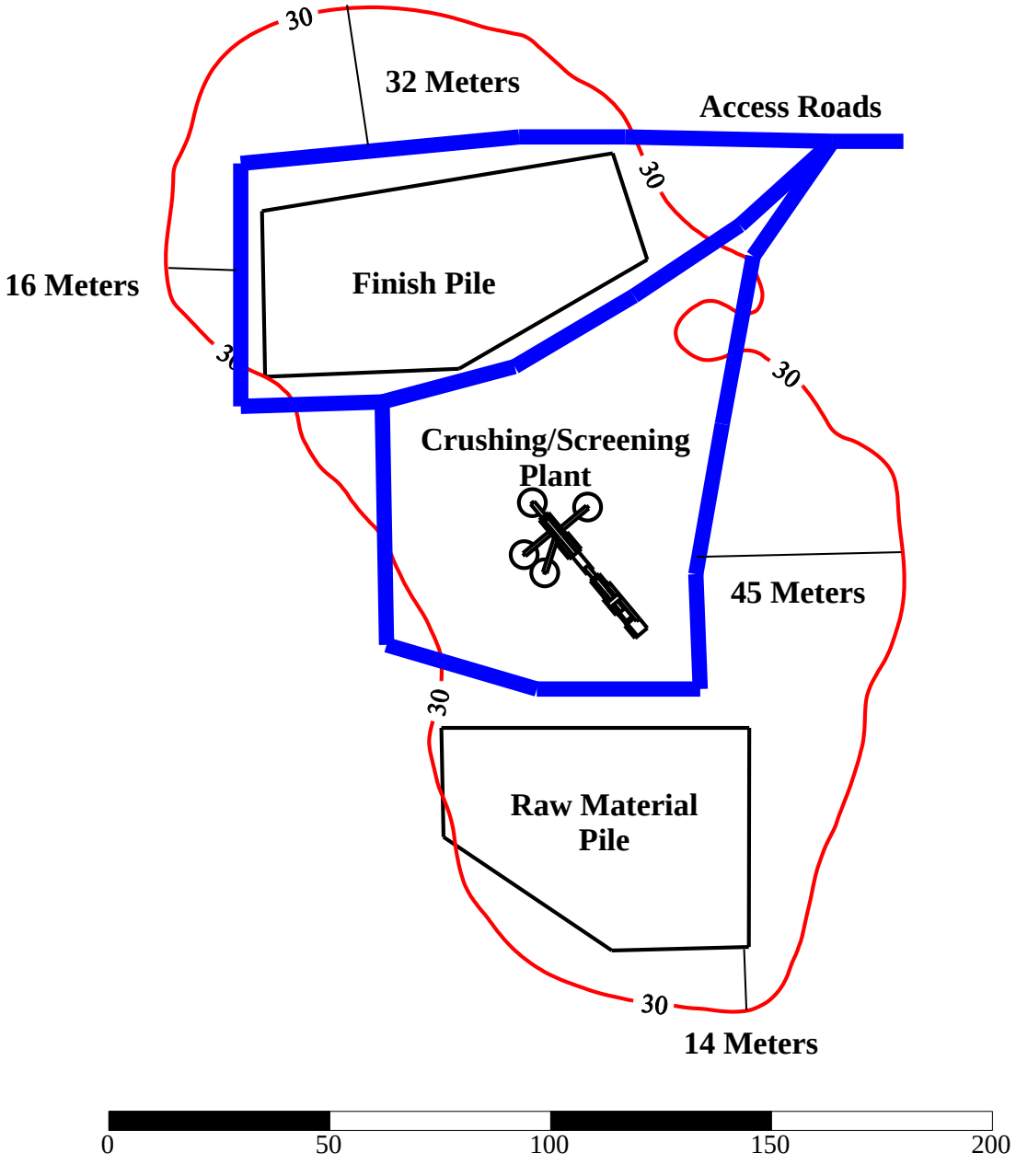
16-N: Setback Distances

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.

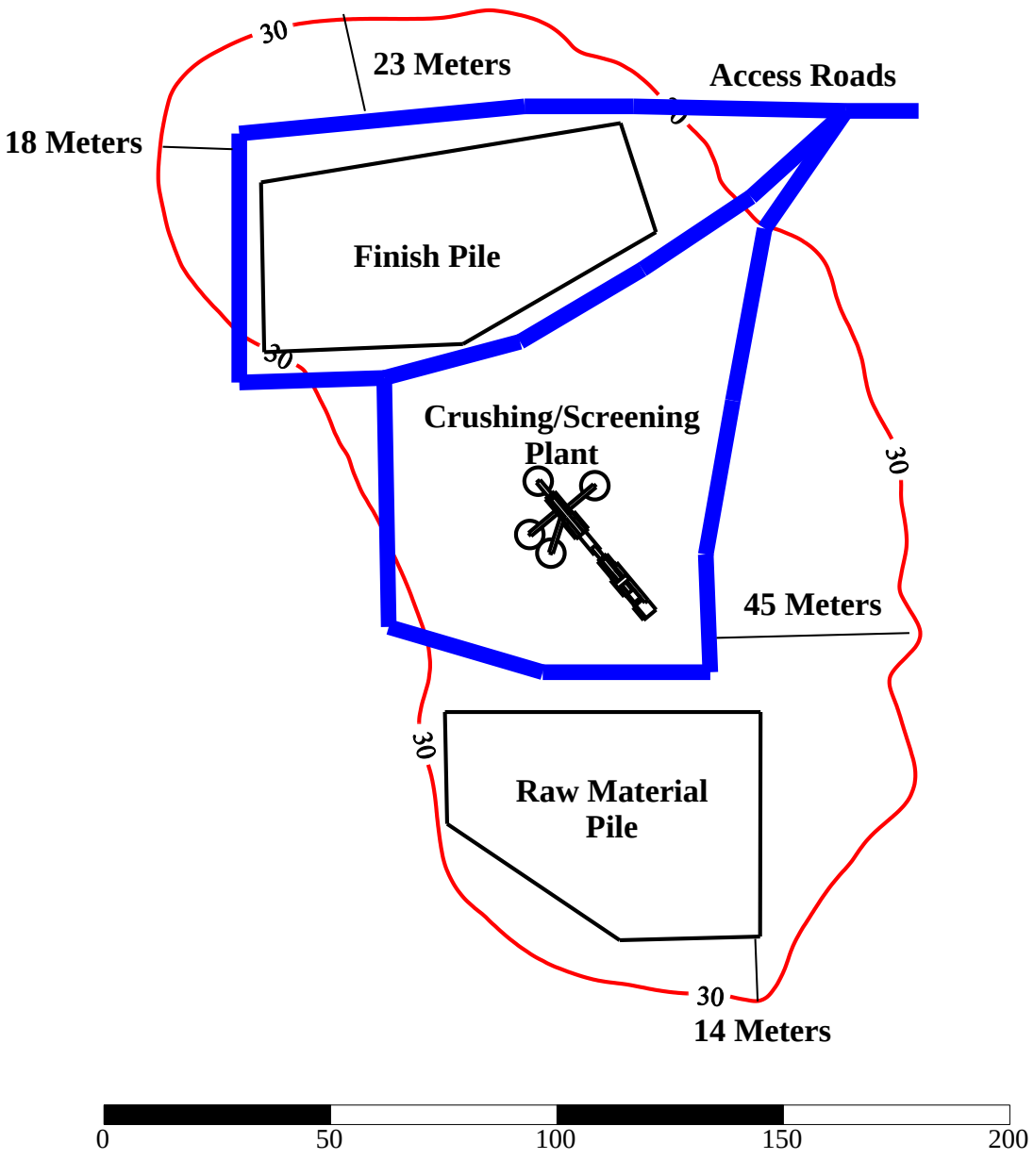
1

Initial Site and relocation modeling for NO2, PM10 NAAQS, PM10 Increment, and PM2.5 NAAQS shows that, with background, the NO2 NAAQS, PM10 NAAQS, and PM2.5 NAAQS were not exceeded outside of the plant area. The PM10 24 hour Increment setback distances are based on site operating scenarios 1 and 2. For any site, initial or relocations, where the facility will operate for more than a year in an area where the PM10 24 hour baseline has been triggered, the setback distances are specified in the table below. For and site, initial or relocations, whre the PM10 24 hour baseline date has not been triggered, there is no setback requirements.

Direction at Site	Meters	Max Pollutant
West	16	PM10 24-Hour Scenarios 1 & 2
South	14	PM10 24-Hour Scenarios 1 &2
East	45	PM10 24-Hour Scenarios 1 & 2
North	32	PM10 24-Hour Scenario 1
Maximum	45	PM10 24-Hour Scenarios 1 & 2



PM10 24 hour Increment Site Setback Modeling Scenario 1



PM10 24 hour Increment Site Setback Modeling Scenario 2

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.
	See the discussion in 16-N,1

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☐	No☒

Unit Number in UA-2	Unit Number in Modeling Files
ROAD	HR1 1-23 (Material In) ; HR2 1-21 (Product Out)

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☐	No☒

Hourly model emission rates for material handling sources (Emissions calculated using AP-42 Section 13.2.4) are calculated using annual average windspeed for Grants.

Permit ID	Model ID	Source Description	Permit Emission Rate PM10 Lb/Hr	Permit Emission Rate PM2.5 Lb/Hr	Modeled Emission Rate PM10 Lb/Hr	Modeled Emission Rate PM2.5 Lb/Hr
RAW	RAW	Raw Material Pile	0.93646	0.14181	0.64935	0.09833
1	1	Crushing Plant Feeder	0.93646	0.14181	0.64935	0.09833
13	13	Stacker Conveyor to Pile	0.22482	0.03404	0.15590	0.02361
15	15	Stacker Conveyor to Pile	0.11241	0.01702	0.07795	0.01180
17	17	Stacker Conveyor to Pile	0.11241	0.01702	0.07795	0.01180
19	19	Stacker Conveyor to Pile	0.11241	0.01702	0.07795	0.01180
FPILE	FPILE	Finish Pile	0.93646	0.14181	0.64935	0.09833
TL	TL1, TL2	Truck Loading	0.93646	0.14181	0.64935	0.09833

3	Have the minor NSR exempt sources or Title V Insignificant Activities" (Table 2-B) sources been modeled?	Yes☐	No☒

4 Which units consume increment for which pollutants?

Unit ID	NO_2	SO_2	PM10	PM2.5
RAW			X	
1			X	
2			X	
3			X	
4			X	
5			X	
6			X	
7			X	
8			X	
9			X	
10			X	
11			X	
12			X	
13			X	

	14			X	
	15			X	
	16			X	
	17			X	
	18			X	
	19			X	
	20			X	
	FPILE			X	
	TL			X	
	ROAD			X	

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☐	No☒
	New facility with installed dates to be 2025		

16-P: Flare Modeling

1	For each flare or flaring scenario, complete the following			
	Flare ID (and scenario)	Average Molecular Weight	Gross Heat Release (cal/s)	Effective Flare Diameter (m)
	N/A			

16-Q: Volume and Related Sources

1	Were the dimensions of volume sources different from standard dimensions in the Air Quality Bureau (AQB) Modeling Guidelines? If not please explain how increment consumption status is determined for the missing installation dates below.	Yes☒	No☐
2	Describe the determination of sigma-Y and sigma-Z for fugitive sources.		
	For storage piles the areapoly model inputs were based on the outline of the pile and a release height of 8 feet or a sigma-Z of 8ft*2/2.15 for Unit RAW (Raw Material Storage Pile), and Unit FPILE (Finish Product Pile). All others (Volume Sources) followed standard dimensions from Air Quality Bureau (AQB) Modeling Guidelines.		
3	Describe how the volume sources are related to unit numbers. Or say they are the same.		
	Same		
4	Describe any open pits.		
	NA		
5	Describe emission units included in each open pit.		

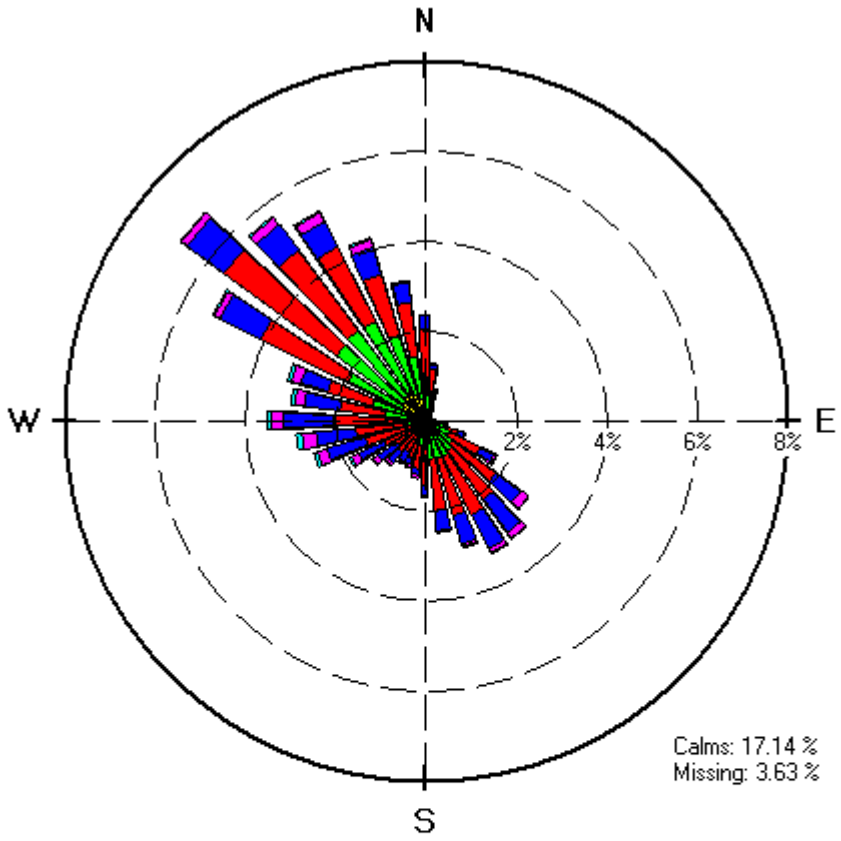
	NA

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☐	No☒
	CO: Del Norte High School (350010023)		
	NO_2: Del Norte High School (350010023)		
	PM2.5: Del Norte High School (350010023)		
	PM10: Del Norte High School (350010023)		
	SO_2: Del Norte High School (350010023)		
	Other:		
	Comments: Backgrounds used for both the initial site and relocation sites were provided by the Bernalillo County/City of Albuquerque Air Quality Program, the operator the Del Norte High School Monitoring Station (350010023).		
2	Were background concentrations refined to monthly or hourly values? If so describe below.	Yes☐	No☒

16-S: Meteorological Data

1	Was NMED provided meteorological data used? If so select the station used. Four Corners (Farmington)	Yes☐	No☒
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.		
	Dispersion model meteorological input files were created from meteorological data collected at Grants-Milan Airport, NM for the years 2019 - 2023, about 5.1 miles northwest from the site. The similar elevation, topography, terrain, vegetation, and climate of both sites make this meteorological data representative of the model area. Figure 2 shows wind rose diagram of the meteorological wind speed versus direction data that has been collected for the years 2019 - 2023.		



Wind Rose Grants-Milan Meteorological Data 2019-23

AERMET (*Version 24142*) wind speed threshold for surface data is 0.5 meters per second.

No minute data is collected at the Grants-Milan Airport so AERMINUTE (*Version 15272*) was not used to supplement hourly observed wind speed and direction. Albuquerque Airport 2019-23 Integrated Global Radiosonde Archive (IGRA) data was used for upper air.

Since the meteorological input data does not include turbulence data, the adjust U* option in AERMET was used during processing of the meteorological data.

AERMET/AERMOD requires that several additional parameters be input during data processing in AERMET:

- Surface roughness length (m)
- Albedo
- Bowen Ratio

The surface roughness length influences the surface shear stress and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer. The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. The daytime Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to latent heat flux and, together with albedo and other meteorological observations, is used for determining planetary boundary layer parameters for convective conditions driven by the surface sensible heat flux.

These parameters will be obtained using AERSURFACE (*Version 24142*). AERSURFACE requires the input of land cover data from the U.S. Geological Survey (USGS) National Land Cover Data 2023 archives (2023 NLCD), which it uses to determine the land cover types for the Grants-Milan airport-specified location. AERSURFACE matches the 2023 NLCD land cover categories to seasonal values of albedo, Bowen ratio, and surface roughness. Values of surface characteristics are calculated based on the land cover data for the study area and output in a format for input into AERMET Stage 2.

Site descriptive questions required by AERSURFACE include:

- Meteorological data from airport
- Continuous snowcover in winter
- Arid climate
- Dry climate

For the Grants-Milan Airport meteorological data, YES was checked for airport data, NO was checked for continuous snowcover, YES was checked for arid climate, and YES was checked for dry climate. For each parameter, data was extracted from land cover data for each month of the year and 12 equal sectors radiating from the Grants-Milan Airport.

16-T: Terrain

1	Was complex terrain used in the modeling? If not, describe why below.	Yes☒	No☐
	Yes, for point sources only. For volume sources and areapoly sources, model was run in source selected flat terrain mode.		
2	What was the source of the terrain data?		
	USGS National Elevation Data (NED)		

16-U: Modeling Files

Describe the modeling files:

	File name (or folder and file name)	Pollutant(s)	Purpose (ROI/SIA, cumulative, culpability analysis, other)
1	Strickland Combust ROI	NO2, CO, SO2	ROI/SIA
	Strickland Lead ROI	Lead	ROI/SIA
	Strickland PMS1 ROI	PM10, PM2.5 Scenario 1	ROI/SIA
	Strickland PMS2 ROI	PM10, PM2.5 Scenario 2	ROI/SIA
	Strickland NO2 1 Hour	NO2 1 hour CIA	Cumulative
	Strickland PM10 S1 24hr	PM10 NAAQS and Class 2 Increment Scenario 1	Cumulative
	Strickland PM10 S2 24hr	PM10 NAAQS and Class 2 Increment Scenario 2	Cumulative
	Strickland PM25 S1 24hr	PM2.5 24 hour NAAQS Scenario 1	Cumulative

	Strickland PM25 S2 24hr	PM2.5 24 hour NAAQS Scenario 2	Cumulative
	Strickland PM25 S1 Annual	PM2.5 Annual NAAQS Scenario 1	Cumulative
	Strickland PM25 S2 Annual	PM2.5 Annual NAAQS Scenario 2	Cumulative
	Strickland Combust Relocation	Relocation Combustion Setback	Relocation Setback
	Strickland NO2 Relocation 1hour	Relocation NO2 1 hour Setback	Relocation Setback
	Strickland PM10 S1 Relocation 24hr	Relocation PM10 Setback Scenario 1	Relocation Setback
	Strickland PM10 S2 Relocation 24hr	Relocation PM10 Setback Scenario 2	Relocation Setback
	Strickland PM25 S1 Relocation 24hr	Relocation PM2.5 24 hour Setback Scenario 1	Relocation Setback
	Strickland PM25 S2 Relocation 24hr	Relocation PM2.5 24 hour Setback Scenario 2	Relocation Setback
	Strickland PM25 S1 Relocation Annual	Relocation PM2.5 Annual Setback Scenario 1	Relocation Setback
	Strickland PM25 S2 Relocation Annual	Relocation PM2.5 Annual Setback Scenario 2	Relocation Setback

16-V: PSD New or Major Modification Applications

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☐	No☒
2	If not, did AQB approve an exemption from preconstruction monitoring?	Yes☐	No☒
3	Describe how preconstruction monitoring has been addressed or attach the approved preconstruction monitoring or monitoring exemption.		
	N/A		
4	Describe the additional impacts analysis required at 20.2.74.304 NMAC.		
	N/A		
5	If required, have ozone and secondary PM2.5 ambient impacts analyses been completed? If so describe below.	Yes☐	No☒
	N/A		

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☐	No☒
2	Identify the maximum concentrations from the modeling analysis. Rows may be modified, added and removed from the table below as necessary.		

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 (ft)
CO 1hr	121.6	NA	NA	NA	NA	SIL – 2000	2.9	243196.5	3891766.5	1961.68
CO 8hr	37.0	NA	NA	NA	NA	SIL – 500	3.0	243196.5	3891766.5	1961.68
NO2 1hr	7.02	7.26	NA	83.1	90.6	188.0	48.2	243196.9	3891742.0	1961.54
NO2 Annual	0.46	NA	NA	NA	NA	SIL – 1.0	46.0	243196.5	3891766.5	1961.68
PM10 24hr	29.6	29.7	NA	22.3	52.0	150.0	34.7	243079.6	3891881.6	1961.16
PM10 24hr Class 2	29.6	29.63	NA	NA	29.6	30.0	98.7	243079.6	3891881.6	1961.16
PM10 Yr Class 2	8.7	8.8	NA	NA	8.8	17.0	51.8	243196.5	3891765.5	1961.68
PM2.5 24hr	3.6	3.8	NA	14.3	18.1	35.0	51.7	243125.9	3891671.0	1960.67
PM2.5 Yr	0.76	1.2	NA	5.2	6.4	9.0	71.1	243196.5	3891765.5	1961.68
SO2 1hr	0.38	NA	NA	NA	NA	SIL – 7.8	4.9	243200.0	3891750.0	1961.59
SO2 3hr	0.19	NA	NA	NA	NA	SIL – 25.0	0.7	243200.0	3891750.0	1961.59

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 (ft)
SO2 24hr	0.064	NA	NA	NA	NA	SIL – 5.0	1.2	243196.5	3891766.5	1961.68
SO2 Annual	0.012	NA	NA	NA	NA	SIL – 1.0	1.2	243196.5	3891766.5	1961.68
Lead Quarterly	0.00013	NA	NA	NA	NA	SIL – 0.03	0.4	243196.5	3891766.5	1961.68

16-X: Summary/conclusions

	A statement that modeling requirements have been satisfied and that the permit can be issued.
1	Dispersion modeling was performed for the new permit application for Strickland's NSR. All facility pollutants with ambient air quality standards and PSD Increment standards were modeled to show compliance with those standards. All results of this modeling showed the facility in compliance with applicable ambient air quality standards.

DISPERSION MODEL PROTOCOL
FOR STRICKLAND SERVICES, LLC
NSR AGGREGATE/RECYCLE PLANT
NSR MINOR SOURCE PERMIT APPLICATION

Grants, New Mexico

PREPARED FOR

Strickland Services, LLC

Dated July 28, 2025

Prepared by

Montrose Environmental Solutions, Inc.

MONTROSE
ENVIRONMENTAL

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1.0 INTRODUCTION

This dispersion modeling analysis will be conducted by Montrose Environmental Solutions, Inc. (Montrose) on behalf of Strickland Services, LLC (Strickland), to evaluate ambient air quality impacts from the Strickland NSR Aggregate/Recycle Plant, as part of a minor source NSR permitting action. This permit application is for a 300 tons per hour (tph) aggregate/recycle crushing and screening plant.

The objective of this modeling evaluation is to predict if, operating at requested maximums, the facility operations would result in ambient air concentrations for nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter; both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$); would exceed the New Mexico and federal ambient air quality standards, NMAAQS and NAAQS respectively. Since Strickland NSR Aggregate/Recycle Plant is a minor source for NSR permitting and is located in AQRC Region 156, where the minor source baseline date has been triggered for PM_{10} (08/04/1978), a PSD II Increment analysis will be performed. No Class I area is located within 50 km of the site, so no Class 1 Increment analysis will be performed.

The dispersion modeling will be conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), Version 24142. This model is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. Additionally, AERMOD was developed to handle complex terrain. The objective of this evaluation is to determine whether ambient air concentrations from the maximum operation of the facility for nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter; both 10 microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$); are below Class II federal and state ambient air quality standards (NAAQS and NMAAQS) found in 40 CFR part 50 and the state of New Mexico's air quality regulation 20.2.3 NMAC from Strickland NSR Aggregate/Recycle Plant emission sources.

1.1 FACILITY DESCRIPTION

Strickland NSR Aggregate/Recycle Plant is a proposed site that will operate an aggregate/recycle crushing and screening operation. At present no other permitted facilities are located within the site boundaries.

1.1.1 Strickland NSR Aggregate/Recycle Crushing Plant

The 300 tph crushing and screening operations will include an aggregate/recycle raw materials pile, a feeder for both the crushing plant and screening plant, one (1) impact crusher, one (1) 2-deck screen, one (1) 3-deck screen, nine (9) transfer conveyors, and four (4) stacker conveyors. The crushing plant will be powered by a 416 horsepower (hp) (314 kW) engine. The screening plant will be powered by a 225 horsepower (hp) (168 kW) engine. Aggregate/recycle material will be delivered to the site by truck and stored in the raw material aggregate/recycle storage pile.

Material from the raw material aggregate/recycle storage pile will first be processed through the crushing plant. Processed material from the crushing plant will be fed by the crushing plant conveyor into and through the screening plant. From the screening plant the processed material will be sent to the finish storage piles until transported from the facility to off-site sales. The crushing and screening plants will limit hourly processing rate to 300 tons per hour (tph) on a daily averaging period and 350,000 tons per year (tpy). The hours of operation are presented below in Table 1, but the crushing and screening plant will limit the daily throughput per month to the values listed in Table 2. The first hour of each day will be limited to starting and warming up of the engines. After the first hour, material processing can occur.

TABLE 1: Aggregate/Recycle Crusher Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
7:00 AM	0	0	1	1	1	1	1	1	1	0	0	0
8:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	0	0	1	1	1	1	1	1	1	0	0	0
5:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	8	8	10	12	12	12	12	12	10.5	8	8	8

TABLE 2: Aggregate/Recycle Daily Production Rates

Season	Tons Per Day
January	1200
February	1200
March	2100
April	2100
May	2100
June	2100
July	2100
August	2100
September	2100
October	1500
November	1500
December	1200

Since the daily production rate is less than the proposed hours of operation running at maximum hourly production rate, two modeling scenarios will be performed for particulate emissions, one for morning and one for afternoon hours. The model hours are presented in Tables 3 and 4.

TABLE 3: Aggregate/Recycle Crusher Morning Modeled Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	1	1	1	1	1	0	0	0	0
8:00 AM	0	0	1	1	1	1	1	1	1	0	0	0
9:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
10:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
11:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	0	0	1	1	1	1	1	1	1	1	1	0
2:00 PM	0	0	1	0	0	0	0	0	1	0	0	0
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	4	7	7	7	7	7	7	7	5	5	4

TABLE 4: Aggregate/Recycle Crusher Afternoon Modeled Hours of Operation (MST)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 AM	0	0	1	0	0	0	0	0	0.5	0	0	0
11:00 AM	0	0	1	1	1	1	1	1	1	1	1	0
12:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
1:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
2:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
3:00 PM	1	1	1	1	1	1	1	1	1	1	1	1
4:00 PM	0	0	1	1	1	1	1	1	1	0	0	0
5:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	4	4	7	7	7	7	7	7	7	5	5	4

1.2 FACILITY IDENTIFICATION AND LOCATION

Strickland NSR Aggregate/Recycle Plant will initially be located at 32 Road 6210 in Grants, Cibola County, New Mexico. This is approximately 1.5 miles southeast of Grants, New Mexico. The UTM Coordinates of the facility are 243,100 meters East and 3,891,780 meters North, Zone 13, with NAD83 datum at an elevation of approximately 5,295 feet above mean sea level.

Figure 1 below presents a layout of the site showing the area where each material is handled.

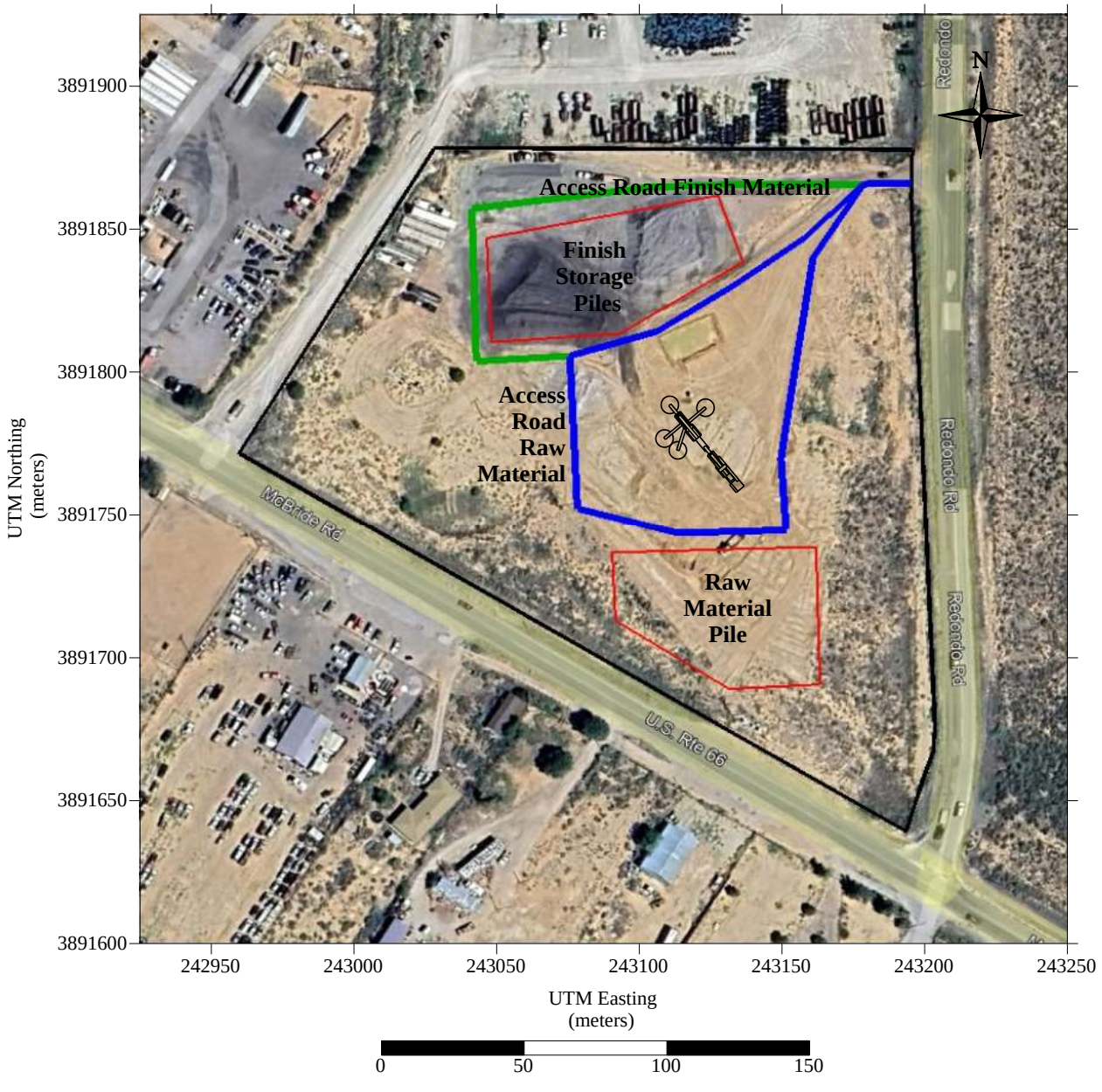


Figure 1: Strickland's NSR Aggregate/Recycle Plant Aerial View with Material Handling Areas

2.0 SIGNIFICANT MONITORING AIR QUALITY IMPACT ANALYSIS

This section identifies the technical approach and dispersion model inputs that will be used for the Class II federal and State ambient air quality standards and PM_{10} Class II Increment impacts for this stationary source. NMED AQB requires that all applicable criteria pollutant emissions be modeled using the most recent versions of US EPA's approved models and be compared with National Ambient Air Quality Standards (NAAQS), and New Mexico Ambient Air Quality Standards (NMAAQS). Table 5 shows the NAAQS and NMAAQS (without footnotes) that the source's ambient impacts must meet in order to demonstrate compliance. Table 5 also lists the Class II Significant Impact Levels (SILs) which are used to assess whether a source has a significant impact at downwind receptors. Table 6 lists all standards for which modeling is not required by NMED AQB.

The dispersion modeling analysis will be performed to estimate concentrations resulting from the operation of the Strickland NSR Aggregate/Recycle Plant using the maximum hourly emission rates while all emission sources are operating. The modeling will determine maximum off-site concentrations for nitrogen dioxide, (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter with aerodynamic diameter less than 10 micrometers (PM_{10}) and particulate matter with aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$), for comparison with modeling significance levels, and national/New Mexico ambient air quality standards (AAQS). Additionally, modeling will determine maximum off-site concentrations for PM_{10} 24 hour and annual average increment limits. The modeling will follow the guidance and protocols outlined in the New Mexico Air Quality Bureau "Air Dispersion Modeling Guidelines" (Revised June, 2024) and the most up to date EPA's *Guideline on Air Quality Models*.

Initial site modeling will be performed with Strickland NSR Aggregate/Recycle Plant sources only to determine pollutant and averaging periods that exceeds pollutant SILs. If initial modeling for any pollutant and averaging period exceeds the SILs, than cumulative modeling will be performed for those pollutants and averaging periods and will include significant neighboring sources along with background ambient concentrations as defined in the NMED's modeling guidelines. For the PSD Class II Increment analysis, Strickland NSR Aggregate/Recycle Plant sources and neighboring increment consuming source within 50 kilometers will be included.

TABLE 5: National and New Mexico Ambient Air Quality Standard Summary

Pollutant	Avg. Period	Sig. Lev. ($\mu g/m^3$)	Class I Sig. Lev. ($\mu g/m^3$)	NAAQS	NMAAQS	PSD Increment Class I	PSD Increment Class II
CO	8-hour	500		9,000 ppb(1)	8,700 ppb(2)		
	1-hour	2,000		35,000 ppb(1)	13,100 ppb(2)		
NO_2	annual	1.0	0.1	53 ppb(3)	50 ppb(2)	2.5 $\mu g/m^3$	25 $\mu g/m^3$
	24-hour	5.0			100 ppb(2)		
	1-hour	7.52		100 ppb(4)			
$PM_{2.5}$	annual	0.13	0.05	9 $\mu g/m^3$(5)		1 $\mu g/m^3$	4 $\mu g/m^3$
	24-hour	1.2	0.27	35 $\mu g/m^3$(6)		2 $\mu g/m^3$	9 $\mu g/m^3$
PM_{10}	annual	1.0	0.2			4 $\mu g/m^3$	17 $\mu g/m^3$
	24-hour	5.0	0.3	150 $\mu g/m^3$(7)		8 $\mu g/m^3$	30 $\mu g/m^3$
SO_2	annual	1.0	0.1		20 ppb(2)	2 $\mu g/m^3$	20 $\mu g/m^3$
	24-hour	5.0	0.2		100 ppb(2)	5 $\mu g/m^3$	91 $\mu g/m^3$
	3-hour	25.0	1.0	500 ppb(1)		25 $\mu g/m^3$	512 $\mu g/m^3$
	1-hour	7.8		75 ppb(8)			

Standards converted from ppb to $\mu g/m^3$ use a reference temperature of 25° C and a reference pressure of 760 millimeters of mercury.
(1) Not to be exceeded more than once each year.
(2) Not to be exceeded.
(3) Annual mean.
(4) 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years.
(5) Annual mean, averaged over 3 years.
(6) 98th percentile, averaged over 3 years.
(7) Not to be exceeded more than once per year on average over 3 years.
(8) 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years.

TABLE 6: Standards for Which Modeling Is Not Required by NMED AQB.

Standard not Modeled	Surrogate that Demonstrates Compliance
CO 8-hour NAAQS	CO 8-hour NMAAQS
CO 1-hour NAAQS	CO 1-hour NMAAQS
NO_2 annual NAAQS	NO_2 annual NMAAQS
NO_2 24-hour NMAAQS	NO_2 1-hour NAAQS
O_3 8-hour	Regional modeling
SO_2 annual NMAAQS	SO_2 1-hour NAAQS
SO_2 24-hour NMAAQS	SO_2 1-hour NAAQS
SO_2 3-hour NAAQS	SO_2 1-hour NAAQS

2.1 DISPERSION MODEL SELECTION

The dispersion modeling will be conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD), Version 24142. This model is recommended by EPA for determining Class II impacts within 50 km of the source being assessed. Additionally, AERMOD was developed to handle complex terrain. In this analysis, AERMOD will be used to estimate pollutant ambient air concentrations of NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$ from Strickland's Strickland NSR Aggregate/Recycle Plant emission sources.

AERMOD is a Gaussian plume dispersion model that is based on planetary boundary layer principles for characterizing atmospheric stability. The model evaluates the non-Gaussian vertical behavior of plumes during convective conditions with the probability density function and the superposition of several Gaussian plumes. AERMOD modeling system has three components: AERMAP, AERMET, and AERMOD. AERMAP is the terrain preprocessor program. AERMET is the meteorological data preprocessor. AERMOD includes the dispersion modeling algorithms and was developed to handle simple and complex terrain issues using improved algorithms. AERMOD uses the dividing streamline concept to address plume interactions with elevated terrain.

AERMOD will be run using all the regulatory default options including use of stack-tip downwash, buoyancy-induced dispersion, calms processing routines, upper-bound downwash concentrations for super-squat buildings, default wind speed profile exponents, vertical potential temperature gradients, and no use of gradual plume rise. Beta version options include the use of flat terrain mode for fugitive ground release sources. The model incorporated local terrain into the calculations for point sources and neighboring sources only.

2.2 BUILDING WAKE EFFECT

AERMOD can account for building downwash and cavity zone effects. Evaluation of building downwash on adjacent stack sources is deemed necessary, since most (if not all) of the stack source heights may be below Good Engineering Practice (GEP) heights. The formula for GEP height estimation is:

$$H_s = H_b + 1.50L_b$$

where: H_s = GEP stack height

H_b = building height

L_b = the lesser building dimension of the height, length, or width

The effects of aerodynamic downwash due to buildings and other structures will be accounted for by using wind direction-specific building parameters calculated by the USEPA-approved Building Parameter Input Program Prime (BPIP-Prime (*Version 04274*)) and the algorithms included in the AERMOD air dispersion model. No buildings are located at the site that will cause building wake effects for facility point sources.

2.3 METEOROLOGICAL DATA

Dispersion model meteorological input files were created from meteorological data collected at Grants-Milan Airport, NM for the years 2019 - 2023, about 5.1 miles northwest from the site. The similar elevation, topography, terrain, vegetation, and climate of both sites make this meteorological data representative of the model area. Figure 2 shows wind rose diagram of the meteorological wind speed versus direction data that has been collected for the years 2019 - 2023.

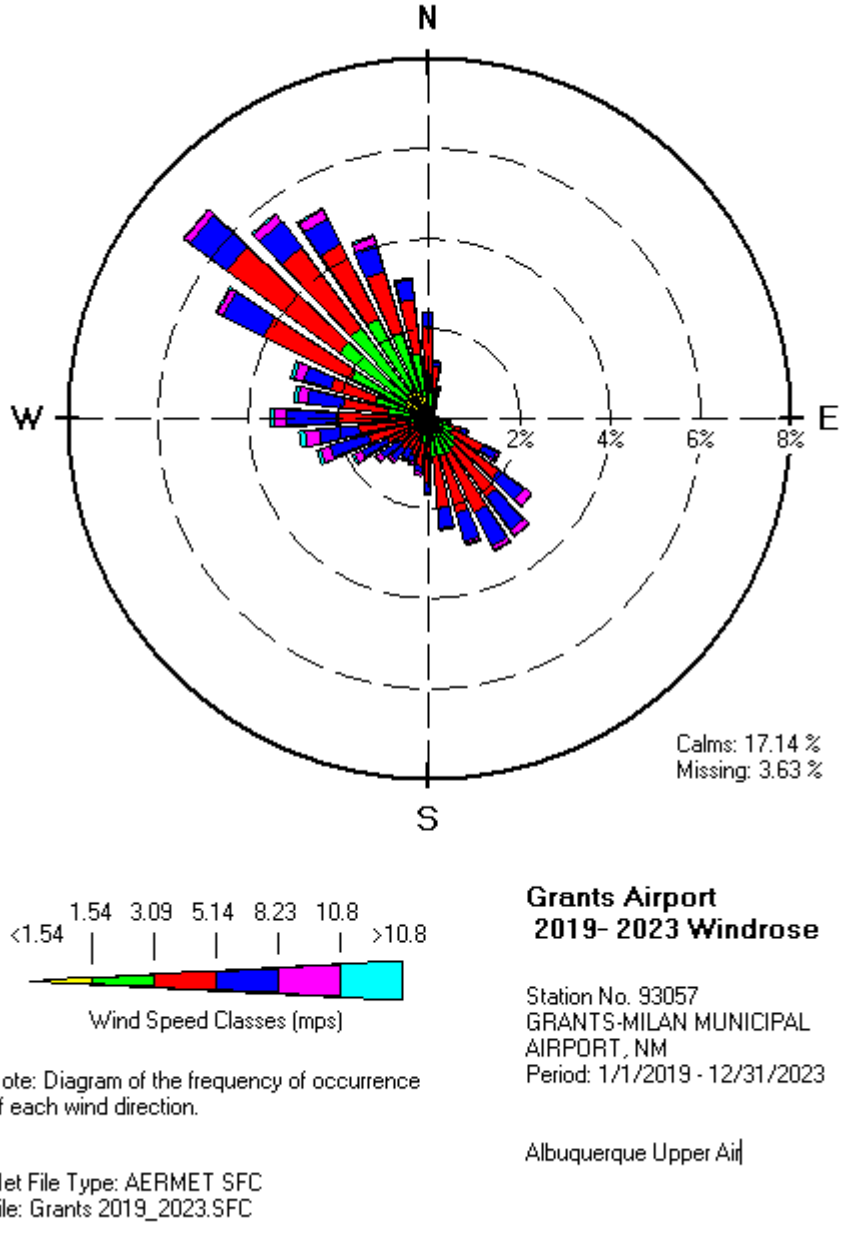


Figure 2: Wind Rose Grants-Milan Meteorological Data 2019-23

AERMET (*Version 24142*) wind speed threshold for surface data is 0.5 meters per second.

No minute data is collected at the Grants-Milan Airport so AERMINUTE (*Version 15272*) was not used to supplement hourly observed wind speed and direction. Albuquerque Airport 2019-23 Integrated Global Radiosonde Archive (IGRA) data was used for upper air.

Since the meteorological input data does not include turbulence data, the adjust U* option in AERMET was used during processing of the meteorological data.

AERMET/AERMOD requires that several additional parameters be input during data processing in AERMET:

- Surface roughness length (m)
- Albedo
- Bowen Ratio

The surface roughness length influences the surface shear stress and is an important factor in determining the magnitude of mechanical turbulence and the stability of the boundary layer. The albedo is the fraction of total incident solar radiation reflected by the surface back to space without absorption. The daytime Bowen ratio, an indicator of surface moisture, is the ratio of sensible heat flux to latent heat flux and, together with albedo and other meteorological observations, is used for determining planetary boundary layer parameters for convective conditions driven by the surface sensible heat flux.

These parameters will be obtained using AERSURFACE (*Version 24142*). AERSURFACE requires the input of land cover data from the U.S. Geological Survey (USGS) National Land Cover Data 2023 archives (2023 NLCD), which it uses to determine the land cover types for the Grants-Milan airport-specified location. AERSURFACE matches the 2023 NLCD land cover categories to seasonal values of albedo, Bowen ratio, and surface roughness. Values of surface characteristics are calculated based on the land cover data for the study area and output in a format for input into AERMET Stage 2.

Site descriptive questions required by AERSURFACE include:

- Meteorological data from airport
- Continuous snowcover in winter
- Arid climate
- Dry climate

For the Grants-Milan Airport meteorological data, YES was checked for airport data, NO was checked for continuous snowcover, YES was checked for arid climate, and YES was checked for dry climate. For each parameter, data was extracted from land cover data for each month of the year and 12 equal sectors radiating from the Grants-Milan Airport.

2.4 RECEPTORS AND TOPOGRAPHY

For each pollutant, the radius of significant impact around the facility is established using a Cartesian grid. A 25-meter grid spacing is used for the facility boundary receptors. A 50-meter spacing and 100-meter spacing are extended to 500-meters and 1-km beyond the facility boundary, respectively from the facility boundary in each direction for a very fine grid resolution. Receptors for a fine grid resolution are placed with 250-meter spacing to a distance of 2.5-km from the facility boundary. Receptors for a course grid resolution are placed with 500-meter, and 1000-meter spacing to a distance of 5-km and 50-km, respectively from the facility boundary.

All model receptors will be preprocessed using the AERMAP software (*Version 24142*) associated with AERMOD. The AERMAP software establishes a base elevation and a height scale for each receptor location. The height scale is a measure of the receptor's location and base elevation and its relation to the terrain feature that has the greatest influence in dispersion for that receptor. AERMAP will be processed using U.S. Geological Survey (USGS) national elevation data (NED). Output from AERMAP will be used as input to the AERMOD runstream file for each model run. The AERMAP domain will be large enough to encompass the 10 percent slope factor required for calculating the controlling hill height.

2.5 MODELED EMISSION SOURCES INPUTS

Strickland NSR Aggregate/Recycle Plant proposes to operate 8 AM to 4 PM, 7 days per week for the months of October through February; 7 AM to 5 PM, 7 days per week for the month of March; 6 AM to 6 PM, 7 days per week for the months of April through August; and 7 AM to 5:30 PM, 7 days per week for the month of September. To represent the worst-case modeling scenario, two modeling runs will be performed, morning and afternoon.

2.5.1 Strickland NSR Aggregate/Recycle Plant Road Vehicle Traffic Model Inputs

The unpaved road fugitive dust for truck traffic is modeled as a line of volume sources. The AQB's approved procedure for Modeling Haul Roads was followed to develop modeling input parameters for unpaved haul roads. Volume source characterization followed the steps described in the Air Quality Bureau's Guidelines (Tables 42 and 43).

2.5.2 Strickland NSR Aggregate/Recycle Plant Storage Piles Areapoly Source Model Inputs

Material storage piles are input into the model as an areapoly source. Model input for storage piles have an initial vertical height of 2.27 meters (16 feet/2.15) and a release height of 2.44 meters (8 feet).

2.5.3 Strickland NSR Aggregate/Recycle Plant Material Handling Volume Source Model Inputs
Material handling and processing will follow the procedure found in AQB's Modeling Guidelines for Fugitive Equipment Sources (Table 41).

2.5.4 Strickland NSR Aggregate/Recycle Plant Material Handling Point Source Model Inputs
For exhaust from engines, the release height will be the height from the ground to the exhaust exit height. The stack diameter will be determined by measuring the stack. Stack temperature and flow rate (stack velocity) will be determined from manufacturer's data or conservative parameters.

2.6 PARTICLE SIZE DISTRIBUTION

PM_{10} emissions may be modeled using plume deposition. Plume deposition simulates the effect of gravity as particles "fall-out" from the plume to the ground as the plume travels downwind. Therefore, the farther the plume travels from the emission point to the receptor, the greater the effect of plume deposition and the greater the decrease in modeled impacts or concentrations. Particle size distribution, particle mass fraction, and particle density are required inputs to the model to perform this function.

Particle size distribution for fugitive road dust on unpaved roads; material handling fugitive emissions; and combustion will use the particle size distribution found in the NMED Modeling Section approved values.

The mass-mean particle diameters were calculated using the formula:

$$d = ((d^3_1 + d^2_1 d_2 + d_1 d^2_2 + d^3_2) / 4)^{1/3}$$

Where: d = mass-mean particle diameter
d_1 = low end of particle size category range
d_2 = high end of particle size category range

Representative average particle densities were obtained from NMED accepted values.

Material	Density (g/cm^3)	Reference
Road Dust	2.5	NMED Value
Combustion	1.5	NMED Value
Fugitive Dust	2.5	NMED Value

The size distribution for PM_{10} emission sources are presented in Tables 7-9.

TABLE 7: Road Vehicle Fugitive Dust Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 – 2.5	1.57	25.0	2.5
2.5 – 10	6.91	75.0	2.5

Based on NMED Model Guideline – June 2024 (Vehicle Fugitive)

TABLE 8: Combustion Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	100.0	1.5

Based on NMED Model Guideline – June 2024 (Combustion)

TABLE 9: Material Handling (Fugitive) Dust Source Deposition Parameters

Particle Size Category (μm)	Mass Mean Particle Diameter (μm)	Mass Weighted Size Distribution (%)	Density (g/cm^3)
PM10			
0 - 2.5	1.57	7.8	2.5
2.5 – 5	3.88	27.0	2.5
5 – 10	7.77	65.2	2.5

Based on NMED Model Guideline – June 2024 (Coal Handling)

2.7 PM2.5 SECONDARY EMISSIONS MODELING

Particulate matter includes both "primary" PM, which is directly emitted into the air, and "secondary" PM, which forms in the atmosphere from chemical reactions involving primary gaseous emissions of precursor air contaminants. Primary PM consists of carbon (soot)—emitted from cars, trucks, heavy equipment, forest fires, and burning waste—and crustal material from unpaved roads, stone crushing, construction sites, and metallurgical operations. Secondary PM forms in the atmosphere from gases. Some of these reactions require sunlight and/or water vapor. Secondary PM includes:

- Sulfates formed from SO_2 emissions from power plants and industrial facilities;
- Nitrates formed from NO_X emissions from cars, trucks, industrial facilities, and power plants; and
- Carbon formed from reactive organic gas (ROG or VOC) emissions from cars, trucks, industrial facilities, forest fires, and biogenic sources such as trees.

AERMOD does not account for secondary formation of $PM_{2.5}$ for near-field modeling. Any secondary contribution of the Strickland source emissions is not explicitly accounted for in the model results. While representative background monitoring data for $PM_{2.5}$ should adequately account for secondary contribution from existing background sources, the Strickland assessment of their potential contribution to cumulative impacts as secondary $PM_{2.5}$ was performed based on guidance from the NMED Modeling Section and using prescribed equations. The permit application for Strickland's Strickland NSR Aggregate/Recycle Plant emissions of precursors include:

- NO_X – 0.53 tons per year (below SER)
- SO_2 – 0.012 tons per year (below SER)
- Volatile Organic Compounds (VOC) – 0.15 tons per year (below SER)
- Particulate Matter with an aerodynamic diameter of 2.5 micron or less ($PM_{2.5}$) – 0.61 tons per year (below SER).

Since all precursor emissions are below the significant emission rate (SER), $PM_{2.5}$ secondary emission concentration analysis was performed.

2.8 NO_2 Dispersion Modeling analysis

The AERMOD model predicts ground-level concentrations of any generic pollutant without chemical transformations. Thus, the modeled NO_X emission rate will give ground-level modeled concentrations of NO_X. NAAQS values are presented as NO_2.

EPA has a three-tier approach to modeling NO_2 concentrations.

- Tier I – total conversion, or all NOx = NO_2
- Tier II –Ambient Ratio Method 2 (ARM2)
- Tier III – case-by-case detailed screening methods, such as OLM and Plume Volume Molar Ratio Method (PVMRM) and NO_2/NO_X in-stack ratio

Initial modeling will be performed using both Tier I and Tier II methodologies. If these modeling iterations demonstrate that less conservative methods for determining 1-hour and annual NO_2 compliance would be needed for this project, then ambient impact of 1-hour and annual NOx predicted by the model will use Tier III – OLM or PVMRM.

For OLM or PVMRM, three inputs can be selected in the model, the ISR, the NO_2/NO_X equilibrium ratio for the ambient air, and the ambient ozone concentration. The ISR will be determined for each source or group of sources. The NO_2/NO_X equilibrium ratio will be the EPA default of 0.90. Ozone input will be from monitored ozone data collected from an approved monitoring station.

Based on EPA's ISR databases, a proposed conservative NO_2/NO_X ISR ratio for Diesel-fired RICE is 0.15. For neighboring sources, since the ISR has a diminishing impact on ambient NO_2/NO_X ratios as a plume is transported farther downwind due to mixing and reaction towards background

ambient NO_2/NO_X ratios, a default ISR of 0.30 based on the NMED Modeling Guidelines will be used. Table 10 summarizes the ISR selected for each NO_X source in the NO_2 1-hour modeling.

TABLE 10: Summary of Selected ISR

Source Description	Selected ISR
Plant Generator/Engine (RICE)	0.15
Neighboring Sources	0.30

Model Ozone Data

For OLM or PVMRM, modeling of the project-generated 1-hour NO_2 concentrations requires use of ambient monitored ozone concentrations. This ozone data will be obtained from Albuquerque Del Norte ozone station (Monitor ID 350010023) for a 1-hour concentration of 169.2 µg/m3.

2.9 SIGNIFICANT NEIGHBORING BACKGROUND SOURCES

For all Cumulative Impact Analysis (CIA) combustion emissions above the SILs dispersion modeling (NO_X, CO, SO_2), will include all significant neighboring sources within 50 kilometers of the Strickland NSR Aggregate/Recycle Plant. NO2 CIA particulate dispersion modeling will include all significant neighboring sources within 50 kilometers of the Strickland NSR Aggregate/Recycle Plant and regional monitored background. PM CIA particulate dispersion modeling will include all significant neighboring sources within 10 kilometers of the Strickland NSR Aggregate/Recycle Plant and regional monitored background. These sources will be obtained from the Bernalillo County/City of Albuquerque Air Quality Department's modeling guidance.

2.10 REGIONAL BACKGROUND CONCENTRATIONS

Ambient background concentrations represent the contribution of pollutant sources that are not included in the modeling analysis, including naturally occurring sources. If the modeled concentration of a criteria pollutant is above the modeling significance level, the background concentration for each criteria pollutant will be added to the maximum modeled concentration to calculate the total estimated pollutant concentration for comparison with the AAQS.

The ambient background concentrations are listed in the Air Quality Bureau Guidelines for NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$. For NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$, Strickland is proposing using the January 3, 2025 background concentrations from the Bernalillo County/City of Albuquerque Air Quality Program.

	$PM_{2.5}$ ($\mu g/m^3$)	PM_{10} ($\mu g/m^3$)	NO_2 ($\mu g/m^3$)	CO ($\mu g/m^3$)	SO_2 ($\mu g/m^3$)
1 Hour			83.1	1870	13.1
8 Hour				1336	
24 Hour	14.3	22.3			
Annual	5.4		18.0		0.0

Attachment

City of Albuquerque Environmental Health Department Air Quality Program Background Values for Air Dispersion Modeling as of January 3, 2025

City of Albuquerque Environmental Health Department Air Quality Program
Background Values for Air Dispersion Modeling as of January 3, 2025

CO

Del Norte

1-hr: **1870** µg/m^3

8hr: **1336** µg/m^3

NO2

Del Norte

1-hr: **83.1** µg/m^3

Annual: **18** µg/m^3

SO2

Del Norte

1-hr: **13.1** µg/m^3

24-hr: 0

Annual: 0

PM2.5

Del Norte

24-hr: **14.3** µg/m^3

Annual: **5.4** µg/m^3

PM10

Del Norte

24-hr: **22.3** µg/m^3

Section 17

Compliance Test History

(Submitting under 20.2.70, 20.2.72, 20.2.74 NMAC)

To show compliance with existing NSR permits conditions, you must submit a compliance test history. The table below provides an example.

Compliance Test History Table

Unit No.	Test Description	Test Date
2, 3, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 8, 20	New Permitted Facility	TBD

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.

No other relevant information.

Section 22: Certification

Company Name: Strickland Services, LLC

I, Brandon Strickland, 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 August, 2025 upon my oath or affirmation, before a notary of the State of New Mexico.

*Signature

8/21/25
Date

Brandon Strickland
Printed Name

Owner/Operator
Title

Scribed and sworn before me on this 21st day of August, 2025.

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

6th day of March, 2025

Notary's Signature

8/21/2025
Date

Eileen A Morin
Notary's Printed Name

OFFICIAL SEAL
State of New Mexico - Notary Public
Eileen A Morin
Commission No. 1002284
My Commission Expires March 6 2028

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

CASH ONLY IF ALL *CheckLock*™ SECURITY FEATURES LISTED ON BACK INDICATE NO TAMPERING OR COPYING

Strickland Services, LLC
1530 Ice Caves Rd
Grants, NM 87020
505-290-3262

WELLS FARGO BANK NM, NA
201 N, 1st St
Grants, NM 87020
95-219/1070

2830

08/20/2025

PAY TO THE ORDER OF NMED Air Quality Bureau $ **500.00

Five hundred and 00/100********** DOLLARS

NMED Air Quality Bureau

MEMO

MP

⑈002830⑈ ⑆107002192⑆ 9896940302⑈

Strickland Services, LLC

2830

08/20/2025 **NMED Air Quality Bureau**

Air Quality Bureau 500.00

Wells Fargo Bank 500.00

Air Permit Application
Compliance History Disclosure Form

Pursuant to Subsection 74-2-7(S) of the New Mexico Air Quality Control Act ("AQCA"), NMSA §§ 74-2-1 to -17, the New Mexico Environment Department ("Department") may deny any permit application or revoke any permit issued pursuant to the AQCA if, within ten years immediately preceding the date of submission of the permit application, the applicant met any one of the criteria outlined below. In order for the Department to deem an air permit application administratively complete, or issue an air permit for those permits without an administrative completeness determination process, the applicant must complete this Compliance History Disclosure Form as specified in Subsection 74-2-7(P). An existing permit holder (permit issued prior to June 18, 2021) shall provide this Compliance History Disclosure Form to the Department upon request.

Permittee/Applicant Company Name		**Expected Application Submittal Date**
Strickland Services, LLC		August 21, 2025
Permittee/Company Contact	**Phone**	**Email**
Brandon Strickland	(505) 290-3262	Stricklandnm@hotmail.com

Within the 10 years preceding the expected date of submittal of the application, has the permittee or applicant:		
1	Knowingly misrepresented a material fact in an application for a permit?	☐ Yes ☒ No
2	Refused to disclose information required by the provisions of the New Mexico Air Quality Control Act?	☐ Yes ☒ No
3	Been convicted of a felony related to environmental crime in any court of any state or the United States?	☐ Yes ☒ No
4	Been convicted of a crime defined by state or federal statute as involving or being in restraint of trade, price fixing, bribery, or fraud in any court of any state or the United States?	☐ Yes ☒ No
5a	Constructed or operated any facility for which a permit was sought, including the current facility, without the required air quality permit(s) under 20.2.70 NMAC, 20.2.72 NMAC, 20.2.74 NMAC, 20.2.79 NMAC, or 20.2.84 NMAC?	☐ Yes ☒ No
5b	If "No" to question 5a, go to question 6. If "Yes" to question 5a, state whether each facility that was constructed or operated without the required air quality permit met at least one of the following exceptions: a. The unpermitted facility was discovered after acquisition during a timely environmental audit that was authorized by the Department; or b. The operator of the facility estimated that the facility's emissions would not require an air permit, **and** the operator applied for an air permit within 30 calendar days of discovering that an air permit was required for the facility.	☐ Yes ☐ No
6	Had any permit revoked or permanently suspended for cause under the environmental laws of any state or the United States?	☐ Yes ☒ No
7	For each "yes" answer, please provide an explanation and documentation.	

August 25, 2025

New Mexico Environment Department
Air Quality Bureau
Permits Section
525 Camino de los Marquez, Suite 1
Santa Fe, New Mexico 87507-3313

Subject: New Minor NSR Permit Application for Strickland Servies LLC's Strickland Aggregate Crusher Plant

To Whom it May Concern:
Attached please find two (2) hardcopies of the New 20.2.72 NMAC Permit Application for Strickland Servies LLC's Strickland Aggregate Crusher Plant. Electronic files will be submitted to the bureau under a file share program. This letter is attached to the application copy that has the original notarized signature page (Section 22), along with an application submittal fee of $500.

Strickland Services is applying for a new minor NSR 20.2.72 NMAC Air Quality Permit for the Strickland Aggregate Crusher Plant to be operated within county of Cibola in the state of New Mexico. Regulation governing this permit application is 20.2.72.200.A(1) NMAC. The function of the facility is to crush and screen aggregate and/or recycled material from on-site material into usable construction sand and gravel or recycled material.

The address for the facility known as, Strickland Aggregate Crusher Plant, is 129 Sakelares Blvd in Grants, New Mexico. The approximate location of this facility is 1.5 miles southeast of Grants in Cibola County.
Please let me know if you have any questions or need additional information. If you have any questions regarding this significant permit revision application please call Paul Wade of Montrose Environmental Solutions, Inc. at (505) 830-9680 ext 6 or Brandon Strickland of Strickland Services LLC at (505) 290-3262.

Sincerely,

Paul Wade
Senior Associate Engineer
Montrose Environmental Solutions, Inc.

Cc: Brandon Strickland, Strickland Services

Montrose Environmental Solutions, Inc.
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