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 effect the facility's operations and emissions, de-bottlenecking impacts, and changes to the facility's major/minor status (both PSD & Title V).

Routine or predictable emissions during Startup, Shutdown, and Maintenance (SSM): 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.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions.

Ruidoso Sand & Gravel, a Division of Southwest Paving and Grading, Inc., is applying for a new 20.2.72.200.A.1 NMAC Permit to operate an aggregate crushing plant within the state of New Mexico. When constructed this facility will be a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard. The plant will be identified as Rio Bonita Aggregate. Ruidoso Sand & Gravel's Rio Bonita Aggregate will crush and size aggregate/recyclable material from quarries/stockpiles onsite. The Ruidoso Sand and Gravel's Rio Bonita Aggregate plant will consist of a quarry, storage material piles, an aggregate grizzly feeder with primary crusher, aggregate feeder (surge bin), screen/secondary crusher plant, ten (10) conveyors, two (2) stacker conveyors, and a 900 horsepower diesel-fired generator. The exact location for the proposed facility will be at latitude 33 deg, 27 min, 43.4 sec and longitude -105 deg, 38 min, 17.9 sec. The approximate location of this facility is 1.7 miles northeast of the intersection of Highways 37 and 48 in Angus, New Mexico in Lincoln County. Ruidoso Sand and Gravel's Rio Bonita Aggregate plant will be permitted to operate during daylight hours with a production limit of 1600 tons per day in the months of November through February, 2000 tons per day in the months of March through October, and 680,000 tons per year. For the Arriba Aggregate Plant, the requested annual hours of operation for the generator will be 3400 hours per year. Daily operating hours can be found in Table 3-1 below.

The Rio Bonita Aggregate plant was input into dispersion models, along with a co-located hot mix asphalt plant (proposed Ruidoso Sand & Gravel's Rio Bonita HMA) and significant neighbors, to show compliance with NAAQS, NMAAQS, and PSD Increments in the final cumulative impact analysis (CIA) modeling. Information on neighboring sources was obtained from Eric Peters of the NMED AQB Modeling Section. Neighboring source data was revised based on present information on existing neighboring sources and revised map coordinates. The neighboring source identified as "FNF New Mexico - 300 TPH Asphalt Drum Mix No1405" was purchased by Ruidoso Sand & Gravel and is the co-located HMA source in this permitting action.

Haul truck traffic entering the facility will be controlled with base course and watering. Haul truck traffic involving the Rio Bonita Aggregate plant will be limited to a maximum of 58 trucks per day and 14,600 trucks per year.

Ruidoso Sand & Gravel's Rio Bonita Aggregate is minor for Title V status and minor for PSD status. Ruidoso Sand & Gravel's Rio Bonita Aggregate is a "portable stationary source" as defined in 20.2.72.7.X. Upon relocation, Ruidoso Sand & Gravel's Rio Bonita Aggregate will be permitted to co-locate with any GCP3, GCP5, or Ruidoso Sand & Gravel's Rio Bonita HMA plant.

Table 3-1: Rio Bonita Aggregate Permitted Operating Hours - Daylight

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	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	1	1	1	1	1	0.5	0	0	0
6:00 AM	0	0.5	1	1	1	1	1	1	1	1	0.5	0
7:00 AM	1	1	1	1	1	1	1	1	1	1	1	1
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	1	1	1	1	1	1	1	1	1	1	1	1
5:00 PM	0.5	1	1	1	1	1	1	1	1	1	0	0
6:00 PM	0	0	0	1	1	1	1	1	0.5	0	0	0
7:00 PM	0	0	0	0	0	0.5	0.5	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	10.5	11.5	12	14	14	14.5	14.5	14	13	12	10.5	10

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 Ruidoso Sand & Gravel's Rio Bonita Aggregate, Ruidoso Sand & Gravel will follow normal industry practices in minimizing emissions during startup, shutdown, and maintenance to not exceed opacity limits and the annual emission rates submitted in Table 2-E. All control equipment and methods will be functioning correctly prior to aggregate processing. Maintenance will be performed during period with no production.

If you have any questions regarding this permit application please call Paul Wade of Class One Technical Services at (505) 830-9680 ext 102.

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.

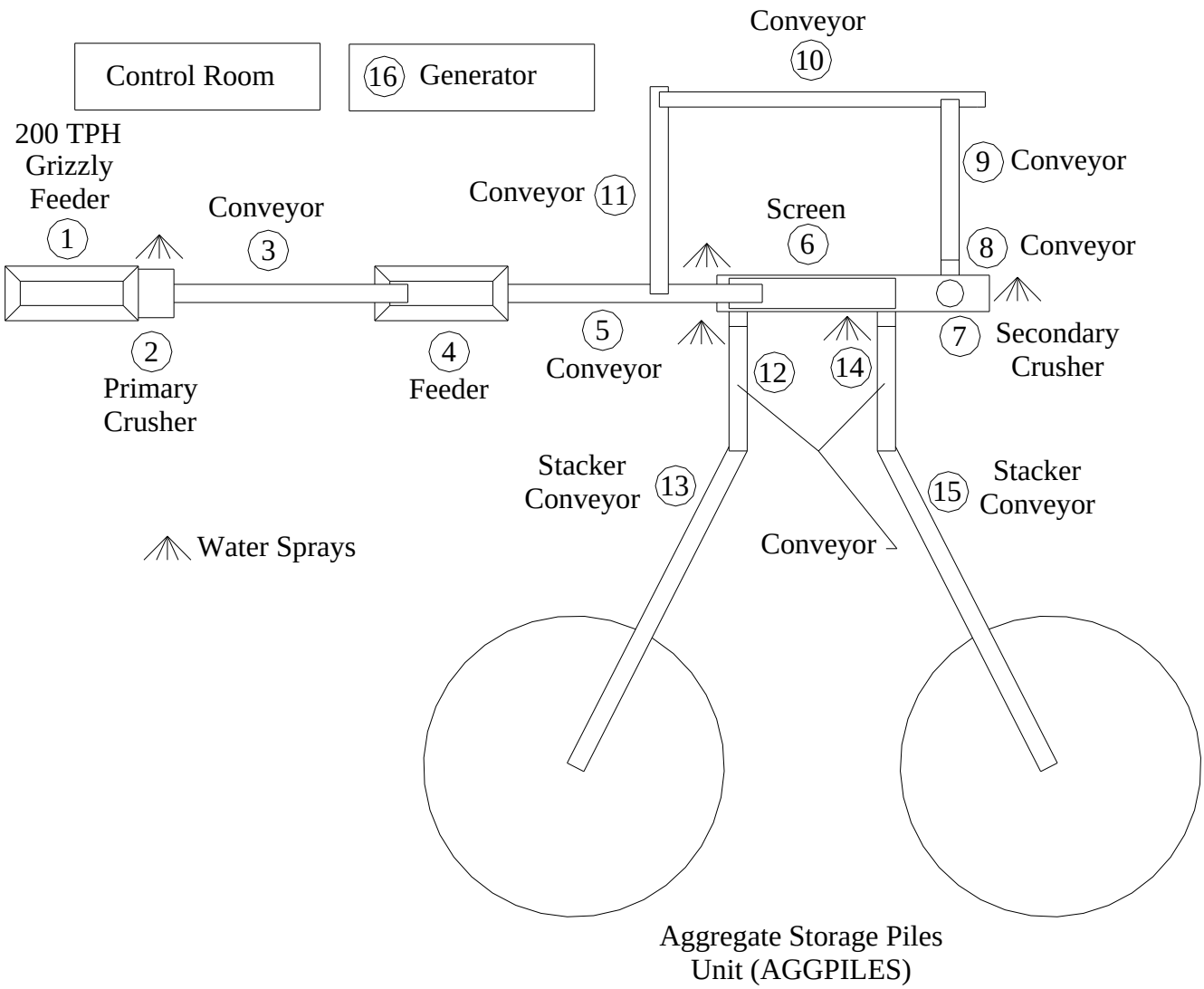

Figure 4-1: Process Flow Diagram

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.

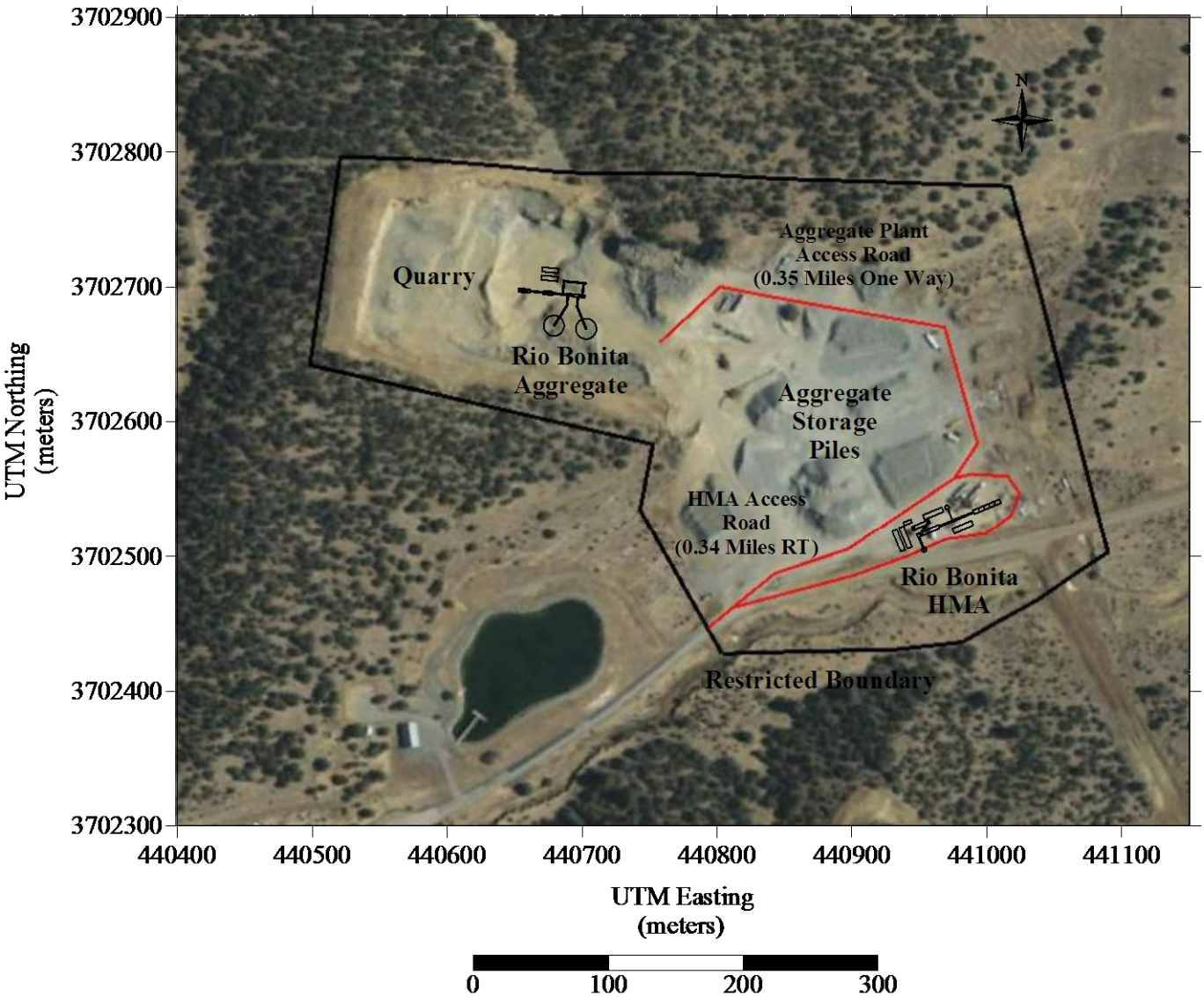

Figure 5-1: Facility Plot Plan

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.nmenv.state.nm.us/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.

Pre-Control Particulate Emission Rates

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

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 pre-control particulate emission rates for aggregate handling operations (loading feeders, stacker conveyor drops to storage piles, material handling at storage 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 (TSP = 0.74, PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the maximum hourly emission rate is the NMED's recommended values of 11 mph, wind speed for determining the average annual emission rate and hourly modeled emission rate are based on the average wind speed for Ruidoso for the years of 1996 through 2006 of 8.3 mph, and NMED default moisture content of 2 percent.

All production hourly emission rates will be based on an average hourly production throughput of 200 tons per hours. Crushing equipment for this facility will have a nominal production rate of 200 tons per hour. Uncontrolled annual emissions for tons per year (tpy) were calculated assuming operation for 8760 hours per year.

Aggregate Storage Piles, Feed Bin Loading, and Stacker Conveyor Emission Equation:

Maximum 24 Hour Emission Factor

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

E_{TSP} (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_{TSP} (lbs/ton) = 0.00660 lbs/ton;

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

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

Maximum Annual Emission Factor

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

E_{TSP} (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_{TSP} (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 Emission Factors:

All Crushing Sources = Uncontrolled Tertiary Crushing Emission Factor
All Screening Sources = Uncontrolled Screening Emission Factor
All Conveyor Transfers = Uncontrolled Conveyor Transfer Point Emission Factor

Material Handling Emission Factors:

Process Unit	TSP Emission Factor (lbs/ton)	PM_{10} Emission Factor (lbs/ton)	$PM_{2.5}$ Emission Factor (lbs/ton)
Uncontrolled Tertiary Crushing	0.00540	0.00240	0.00036
Uncontrolled Screening	0.02500	0.00870	0.00132
Uncontrolled Conveyor Transfer	0.00300	0.00110	0.00017
Material drop to stockpile - 24 Hour	0.00660	0.00312	0.00047
Material drop to stockpile - Annual	0.00458	0.00216	0.00033
Aggregate Handling Storage Piles – 24 hour	0.00660	0.00312	0.00047
Aggregate Handling Storage Piles – Annual	0.00458	0.00216	0.00033

The following equations were 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 equations were used to calculate the annual emission rate for each process unit:

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

Table 6-1 Uncontrolled Material Processing Particulate Emission Rates

Unit #	Process Unit Description	Ave. Process Rate (tons/ hour)	TSP Emission Rate (lbs/hr)	TSP 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	Quarry/Raw Material	200	1.3	4.0	0.62	1.9	0.095	0.29
1	Grizzly Feeder	200	1.3	4.0	0.62	1.9	0.095	0.29
2	Primary Crusher	200	1.1	4.7	0.48	2.1	0.073	0.32
3	Conveyor Transfer Point	200	0.60	2.6	0.22	0.96	0.033	0.15
4	Feeder	200	1.3	4.0	0.62	1.9	0.095	0.29
5	Conveyor Transfer Point	200	0.60	2.6	0.22	0.96	0.033	0.15
6	Screen	320	8.0	35	2.8	12	0.42	1.8
7	Secondary Crusher	120	0.65	2.8	0.29	1.3	0.044	0.19
8	Conveyor Transfer Point	120	0.36	1.6	0.13	0.58	0.020	0.088
9	Conveyor Transfer Point	120	0.36	1.6	0.13	0.58	0.020	0.088
10	Conveyor Transfer Point	120	0.36	1.6	0.13	0.58	0.020	0.088
11	Conveyor Transfer Point	120	0.36	1.6	0.13	0.58	0.020	0.088
12	Conveyor Transfer Point	200	0.60	2.6	0.22	0.96	0.033	0.15
13	Conveyor Transfer Point	200	0.60	2.6	0.22	0.96	0.033	0.15
14	Conveyor Transfer Point	200	0.60	2.6	0.22	0.96	0.033	0.15
15	Conveyor Transfer Point	200	0.60	2.6	0.22	0.96	0.033	0.15
AGGPILE	Stacker Conveyor Drop	200	1.3	4.0	0.62	1.9	0.095	0.29
FPILE	Finish Storage Pile	200	1.3	4.0	0.62	1.9	0.095	0.29
		TOTALS	21	85	8.5	33	1.3	5.0

Uncontrolled Haul Truck Travel

Haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. The haul road from Highway 48 to the aggregate plant will be permitted for a maximum number of round trip haul trucks per day of 58, which is equivalent to 4 haul trucks per hour based on a 14.5 hour day. Hourly particulate emission rates entered into the model are based on the maximum daily haul truck limits and the maximum daily hours of operation. Table 6-2 summarizes the emission rate for each operating scenarios.

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

Where k = constant PM2.5 = 0.15
PM10 = 1.5
TSP = 4.9
s = % silt content (Table 13.2.2-1, "Sand and Gravel" 4.8%)
W = mean vehicle weight (27.5 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
TSP = 0.7
b = Constant PM2.5 = 0.45
PM10 = 0.45
TSP = 0.45
VMT = Vehicle Miles Traveled (road length = 0.70851 miles round trip)
Trucks per hour = 4

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
TSP = 6.9925 lbs/VMT
PM10 = 1.7821 lbs/VMT
PM2.5 = 0.1782 lbs/VMT

Annual Emission Rate Factor
TSP = 5.6515 lbs/annual VMT
PM10 = 1.4403 lbs/annual VMT
PM2.5 = 0.1440 lbs/annual VMT

Table 6-2: Pre-Controlled Haul Road Travel Emission Rates

Process Unit Description	Process Rate	TSP Emission Rate (lbs/hr)	TSP 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	2.834 miles/hr; 24,826 miles/yr	20	70	5.1	18	0.51	1.8

Estimates for Controlled Material Handling ($PM_{2.5}$, PM_{10} and TSP)

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 grizzly feeder (Unit 1), feeder (Unit 4), material handling at the quarry/raw material source (RAW) or finish storage pile (FPILE). Water sprays and/or moisture carryover will control fugitive dust for Units 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15. Moisture carryover will control fugitive emissions during material transfer from conveyors to loading of the plant storage piles (estimated 2.88% soil moisture content) (AGGPILE).

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 control particulate emission rates for aggregate handling operations (loading feeders, stacker conveyor drops to storage piles, material handling at storage 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 (TSP = 0.74, PM_{10} = 0.35, $PM_{2.5}$ = 0.053), wind speed for determining the average annual emission rate and hourly modeled emission rate are based on the average wind speed for Ruidoso for the years of 1996 through 2006 of 8.3 mph. Moisture carryover will control fugitive emissions during material transfer from conveyors to loading of the plant storage piles (estimated 2.88% soil moisture content) (AGGPILE).

All production hourly emission rates will be based on an average hourly production throughput of 200 tons per hours. Crushing equipment for this facility will have a nominal production rate of 200 tons per hour. Permit requested daily production limits will be 1,600 for the months of November through February and 2,000 tons for the months of March through October. Permit requested annual production limits for calculated annual emission rates will be 680,000 tons per year.

Aggregate Storage Piles and Feed Bin Loading Emission Equation:

Maximum 24 Hour Emission Factor

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

E_{TSP} (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_{TSP} (lbs/ton) = 0.00660 lbs/ton;

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

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

Maximum Annual Emission Factor
E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$
E_{TSP} (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_{TSP} (lbs/ton) = 0.00458 lbs/ton;
E_{PM10} (lbs/ton) = 0.00216 lbs/ton
$E_{PM2.5}$ (lbs/ton) = 0.00033 lbs/ton

<u>Stacker Conveyor Emission Equation:</u>
Maximum 24 Hour Emission Factor
E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$
E_{TSP} (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_{TSP} (lbs/ton) = 0.00396 lbs/ton;
E_{PM10} (lbs/ton) = 0.00187 lbs/ton
$E_{PM2.5}$ (lbs/ton) = 0.00028 lbs/ton

Maximum Annual Emission Factor
E (lbs/ton) = k x 0.0032 x $(U/5)^{1.3}$ / $(M/2)^{1.4}$
E_{TSP} (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_{TSP} (lbs/ton) = 0.00275 lbs/ton;
E_{PM10} (lbs/ton) = 0.00130 lbs/ton
$E_{PM2.5}$ (lbs/ton) = 0.00020 lbs/ton

<u>AP-42 Emission Factors:</u>

All Crushing Sources = Controlled Tertiary Crushing Emission Factor
All Screening Sources = Controlled Screening Emission Factor
All Conveyor Transfers = Controlled Conveyor Transfer Point Emission Factor

<u>Material Handling Emission Factors:</u>

Process Unit	TSP Emission Factor (lbs/ton)	PM_{10} Emission Factor (lbs/ton)	$PM_{2.5}$ Emission Factor (lbs/ton)
Controlled Tertiary Crushing	0.00120	0.00054	0.00010
Controlled Screening	0.00220	0.00074	0.00005
Controlled Conveyor Transfer	0.00014	0.00005	0.000013
Material drop to stockpile - 24 Hour	0.00396	0.00187	0.00028
Material drop to stockpile - Annual	0.00275	0.00130	0.00020
Aggregate Handling Storage Piles – 24 hour	0.00660	0.00312	0.00047
Aggregate Handling Storage Piles – Annual	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) * Controlled Emission Factor (lbs/ton)

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

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

Table 6-3: Controlled Material Processing Particulate Emission Rates

Unit #	Process Unit Description	Ave. Process Rate (tons/ hour)	TSP Emission Rate (lbs/hr)	TSP 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	Quarry/Raw Material	200	1.3	1.6	0.62	0.74	0.095	0.11
1	Grizzly Feeder	200	1.3	1.6	0.62	0.74	0.095	0.11
2	Primary Crusher	200	0.24	0.41	0.11	0.18	0.020	0.034
3	Conveyor Transfer Point	200	0.028	0.048	0.0092	0.016	0.0026	0.0044
4	Feeder	200	1.3	1.6	0.62	0.74	0.095	0.11
5	Conveyor Transfer Point	200	0.028	0.048	0.0092	0.016	0.0026	0.0044
6	Screen	320	0.70	1.2	0.24	0.40	0.016	0.027
7	Secondary Crusher	120	0.14	0.24	0.065	0.11	0.012	0.020
8	Conveyor Transfer Point	120	0.017	0.029	0.0055	0.0094	0.0016	0.0027
9	Conveyor Transfer Point	120	0.017	0.029	0.0055	0.0094	0.0016	0.0027
10	Conveyor Transfer Point	120	0.017	0.029	0.0055	0.0094	0.0016	0.0027
11	Conveyor Transfer Point	120	0.017	0.029	0.0055	0.0094	0.0016	0.0027
12	Conveyor Transfer Point	200	0.028	0.048	0.0092	0.016	0.0026	0.0044
13	Conveyor Transfer Point	200	0.028	0.048	0.0092	0.016	0.0026	0.0044
14	Conveyor Transfer Point	200	0.028	0.048	0.0092	0.016	0.0026	0.0044
15	Conveyor Transfer Point	200	0.028	0.048	0.0092	0.016	0.0026	0.0044
AGGPILE	Stacker Conveyor Drop	200	0.79	0.93	0.37	0.44	0.057	0.067
FPILE	Finish Storage Pile	200	1.3	1.6	0.62	0.74	0.095	0.11
		TOTALS	7.4	9.4	3.4	4.2	0.50	0.63

Controlled Haul Truck Travel

Haul truck travel emissions were estimated using AP-42, Section 13.2.2 (ver.11/06) "Unpaved Roads" emission equation. Haul road fugitive dust from haul road traffic will be control by base course and watering (80% control efficiency allowed). Daily number of trucks trips will be 58. Annually the number of trucks trips will be 13,600. Table 6-4 summarizes the emission rate for each control method.

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

Where k = constant PM2.5 = 0.15
PM10 = 1.5
TSP = 4.9
s = % silt content (Table 13.2.2-1, "Sand and Gravel" 4.8%)
W = mean vehicle weight (27.5 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
TSP = 0.7
b = Constant PM2.5 = 0.45
PM10 = 0.45
TSP = 0.45
VMT = Vehicle Miles Traveled (road length = 0.70851 miles one way)
Trucks per hour = 4

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
TSP = 1.3985 lbs/VMT
PM10 = 0.3564 lbs/VMT
PM2.5 = 0.0356 lbs/VMT

Annual Emission Rate Factor with Base Course and Watering 80% Control
TSP = 1.1303 lbs/annual VMT
PM10 = 0.2881lbs/annual VMT
PM2.5 = 0.0288 lbs/annual VMT

Table 6-4: Controlled Haul Road Fugitive Dust Emission Rates

Process Unit Description	Miles per Hour	TSP Emission Rate (lbs/hr)	TSP 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 with Base Course and Watering	2.834 miles/hr; 9,636 miles/yr	4.0	5.4	1.0	1.4	0.10	0.14

Estimates for Diesel-Fired Generator/Engine (NO_X, CO, SO_2, VOC and PM)

Plant Generator/Engine

The aggregate plant is powered by a 900 horsepower (600 kW) generator/engine. Combustion emissions will be estimated using EPA AP-42 Section 3.4 emission limits. For carbon monoxide (CO) and safety factor of 2 was used along with the EPA AP-42 Section 3.4 emission limit to determine emission rates. Sulfur dioxide (SO_2) emissions are estimated based on sulfur content of diesel fuel, not to exceed 0.05% fuel content per 40 CFR 80.29. Uncontrolled annual emissions in tons per year (tpy) were calculated assuming operation of 8760 hours per year. Controlled annual emissions in tons per year (tpy) were calculated assuming operation of 3400 hours per year.

EPA AP-42 Section 3.3 Emission Limits:

Pollutant	Emission Factor (lb/hp-hr)
Nitrogen Oxides	0.024000
Carbon Monoxides	0.005500 * 2
Particulate	0.000700
Hydrocarbons	0.000704

Sulfur dioxide emission rate was calculated using the fuel consumption rate for this engine of 0.37 pounds per horsepower, a fuel sulfur content of 0.05%, 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 (lbs/hp) * Engine HP * % Sulfur Content * Factor

$$\text{Emission Rate (lbs/hr)} = \frac{0.37 \text{ lbs}}{\text{hp}} \cdot 900 \text{ hp} \cdot \frac{0.0005 \text{ lbs Sulfur}}{1 \text{ lb fuel}} \cdot \frac{2 \text{ lbs Sulfur Dioxide}}{1 \text{ lb Sulfur}}$$

Emission Rate (lbs/hr) = 0.33 lbs/hr

The following equation was used to calculate the hourly emission rate for NO_X, CO, VOC, and PM pollutants:

Emission Rate (lbs/hr) = Emission Factor (lbs/hp-hr) * horsepower

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 6-5: Pre-Controlled Combustion Emission Rates

Emission Unit Number	Pollutant	Horsepower Rating (hp)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
16	NO_X	900	22	95
	CO	900	9.9	43
	SO_2	900	0.33	1.5
	VOC	900	0.63	2.8
	TSP	900	0.63	2.8
	PM_{10}	900	0.63	2.8
	$PM_{2.5}$	900	0.63	2.8

Table 6-6: Controlled Combustion Emission Rates

Emission Unit Number	Pollutant	Horsepower Rating (hp)	Emission Rate (lbs/hr)	Emission Rate (tons/yr)
16	NO_X	900	22	37
	CO	900	9.9	17
	SO_2	900	0.33	0.57
	VOC	900	0.63	1.1
	TSP	900	0.63	1.1
	PM_{10}	900	0.63	1.1
	$PM_{2.5}$	900	0.63	1.1

Table 6-7: Total Uncontrolled Emissions

ID #	Source Description	NOx		CO		SO2		VOC		TSP		PM10		PM2.5	
		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	Quarry/Raw Material									1.3	4.0	0.62	1.9	0.095	0.29
1	Grizzly Feeder									1.3	4.0	0.62	1.9	0.095	0.29
2	Primary Crusher									1.1	4.7	0.48	2.1	0.073	0.32
3	Conveyor Transfer Point									0.60	2.6	0.22	0.96	0.033	0.15
4	Feeder									1.3	4.0	0.62	1.9	0.095	0.29
5	Conveyor Transfer Point									0.60	2.6	0.22	0.96	0.033	0.15
6	Screen									8.0	35	2.8	12	0.42	1.8
7	Secondary Crusher									0.65	2.8	0.29	1.3	0.044	0.19
8	Conveyor Transfer Point									0.36	1.6	0.13	0.58	0.020	0.088
9	Conveyor Transfer Point									0.36	1.6	0.13	0.58	0.020	0.088
10	Conveyor Transfer Point									0.36	1.6	0.13	0.58	0.020	0.088
11	Conveyor Transfer Point									0.36	1.6	0.13	0.58	0.020	0.088
12	Conveyor Transfer Point									0.60	2.6	0.22	0.96	0.033	0.15
13	Conveyor Transfer Point									0.60	2.6	0.22	0.96	0.033	0.15
14	Conveyor Transfer Point									0.60	2.6	0.22	0.96	0.033	0.15
15	Conveyor Transfer Point									0.60	2.6	0.22	0.96	0.033	0.15
AGGPILES	Stacker Conveyor Drop									1.3	4.0	0.62	1.9	0.095	0.29
TRUCK	Haul Road Traffic									20	70	5.1	18	0.51	1.8
FPILES	Finish Storage Pile									1.3	4.0	0.62	1.9	0.095	0.29
RAW	Quarry/Raw Material									1.3	4.0	0.62	1.9	0.095	0.29
16	Crush/Screen Plant Generator	22	95	9.9	43	0.33	1.5	0.63	2.8	0.63	2.8	0.63	2.8	0.63	2.8
	Total	**22**	**95**	**9.9**	**43**	**0.33**	**1.5**	**0.63**	**2.8**	**42**	**158**	**14**	**54**	**2.4**	**10**

Table 6-8: Total Controlled Emissions

ID #	Source Description	NOx		CO		SO2		VOC		TSP		PM10		PM2.5	
		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	Quarry/Raw Material									1.3	1.6	0.62	0.74	0.095	0.11
1	Grizzly Feeder									1.3	1.6	0.62	0.74	0.095	0.11
2	Primary Crusher									0.24	0.41	0.11	0.18	0.020	0.034
3	Conveyor Transfer Point									0.028	0.048	0.0092	0.016	0.0026	0.0044
4	Feeder									1.3	1.6	0.62	0.74	0.095	0.11
5	Conveyor Transfer Point									0.028	0.048	0.0092	0.016	0.0026	0.0044
6	Screen									0.70	1.2	0.24	0.40	0.016	0.027
7	Secondary Crusher									0.14	0.24	0.065	0.11	0.012	0.020
8	Conveyor Transfer Point									0.017	0.029	0.0055	0.0094	0.0016	0.0027
9	Conveyor Transfer Point									0.017	0.029	0.0055	0.0094	0.0016	0.0027
10	Conveyor Transfer Point									0.017	0.029	0.0055	0.0094	0.0016	0.0027
11	Conveyor Transfer Point									0.017	0.029	0.0055	0.0094	0.0016	0.0027
12	Conveyor Transfer Point									0.028	0.048	0.0092	0.016	0.0026	0.0044
13	Conveyor Transfer Point									0.028	0.048	0.0092	0.016	0.0026	0.0044
14	Conveyor Transfer Point									0.028	0.048	0.0092	0.016	0.0026	0.0044
15	Conveyor Transfer Point									0.028	0.048	0.0092	0.016	0.0026	0.0044
AGGPILES	Stacker Conveyor Drop									0.79	0.93	0.37	0.44	0.057	0.067
TRCK	Haul Road Traffic									4.0	5.4	1.0	1.4	0.10	0.14
FPILES	Finish Storage Pile									1.3	1.6	0.62	0.74	0.095	0.11
RAW	Quarry/Raw Material									1.3	1.6	0.62	0.74	0.095	0.11
16	Crush/Screen Plant Generator	22	37	9.9	17	0.33	0.54	0.63	1.1	0.63	1.1	0.63	1.1	0.63	1.1
	Total	**22**	**37**	**9.9**	**17**	**0.33**	**0.54**	**0.63**	**1.1**	**12**	**16**	**5.0**	**6.7**	**1.2**	**1.8**

Estimates for Federal HAPs Air Pollutants

The plant generator/engine (Unit 16) is a source of HAPs as it appears in Section 112 (b) of the 1990 CAAA. Emissions of HAPs were determined for the plant generator/engine using AP-42 Section 3.3 and Section 1.3.

The following table summarizes the HAPs emission rates from the plant generator/engine.

Table 6-9: HAPs Emission Rates from the Main Plant Generator

Horsepower Rating:	900	horsepower	
Fuel Usage:	31.1	gallons/hr	
MMBtu/hr:	3.9808	Btu	(based on 128000 Btu/gallon)
Btu x 10^-12/hr:	3.9808E-06	Btu x10^-12	(based on 128000 Btu/gallon)
Yearly Operating Hours:	3400	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)**
Acetalehyde	75-07-0	7.67E-04	0.004673	0.007944
Acrolein	107-02-8	9.25E-05	0.000564	0.000958
Benzene	71-43-2	9.33E-04	0.005685	0.009664
1,3-Butadiene	106-99-0	3.91E-05	0.000238	0.000405
Formaldehyde	50-00-0	1.18E-03	0.007190	0.012222
Propylene	115-07-1	2.58E-03	0.015719	0.026723
Toluene	108-88-3	4.09E-04	0.002492	0.004236
Xylene	1330-20-7	2.85E-04	0.001736	0.002952
	Total Non-PAH HAPS	6.29E-03	0.038297	0.065105

PAH HAPS	**CAS#**	**Emission Factor (lbs/mmBtu)**	**Emission Rate (lbs/hr)**	**Emission Rate (ton/yr)**
Acenaphthene	83-32-9	1.42E-06	0.000009	0.000015
Acenaphthylene	208-96-8	5.06E-06	0.000031	0.000052
Anthracene	120-12-7	1.87E-06	0.000011	0.000019
Benzo(a)anthracene	56-55-3	1.68E-06	0.000010	0.000017
Benzo(a)pyrene	50-32-8	1.88E-07	0.000001	0.000002
Benzo(b)fluoranthene	205-99-2	9.91E-08	0.000001	0.000001
Benzo(a)pyrene	192-97-2	1.55E-07	0.000001	0.000002
Benzo(g,h,I)perylene	191-24-2	4.89E-07	0.000003	0.000005
Benzo(k)fluoranthene	207-08-9	1.55E-07	0.000001	0.000002
Dibenz(a,h)anthracene		5.83E-07	0.000004	0.000006
Chrysene	218-01-9	3.53E-07	0.000002	0.000004
Fluoranthene	206-44-0	7.61E-06	0.000046	0.000079
Fluorene	86-73-7	2.92E-05	0.000178	0.000302
Indeno(1,2,3-cd)pyrene	193-39-5	3.75E-07	0.000002	0.000004
Naphthalene	91-20-3	8.48E-05	0.000517	0.000878
Phenanthrene	85-01-8	2.94E-05	0.000179	0.000305
Pyrene	129-00-0	4.78E-06	0.000029	0.000050
	Total PAH HAPS	1.68E-04	0.001025	0.001742

HAPS Metals		**Emission Factor (lbs/Btu^12)**	**Emission Rate (lbs/hr)**	**Emission Rate (ton/yr)**
Arsenic		4	0.000024	0.000041
Beryllium		3	0.000018	0.000031
Cadmium		3	0.000018	0.000031
Chromium		3	0.000018	0.000031
Lead		9	0.000055	0.000093
Manganese		6	0.000037	0.000062
Mercury		3	0.000018	0.000031
Nickel		3	0.000018	0.000031
Selenium		15	0.000091	0.000155
	Total Metals HAPS	49	0.000299	0.000508
	Total HAPS		**0.03962**	**0.00520**

Section 7

Information Used To Determine Emissions

<u>Information Used to Determine Emissions</u> shall include the following:

- ☐ If manufacturer data are used, include specifications for emissions units <u>and</u> 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.

Aggregate Storage Piles, Feeder Loading, Drop to Piles: AP-42 Section 13.2.4

Conveyor Transfer Points, Screening, and Crushing: AP-42 Section 11.19.2

Haul Truck Traffic: AP-42 Section 13.2.2

Aggregate Plant Generator: AP-42 Section 3.4

Generator HAPs: AP-42 Section 1.3 and Section 3.3

Ruidoso Sand & Gravel Aggregate Excel Emission Calculation Spreadsheet: A-XXXX-7-AGGEmissions.xls

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	

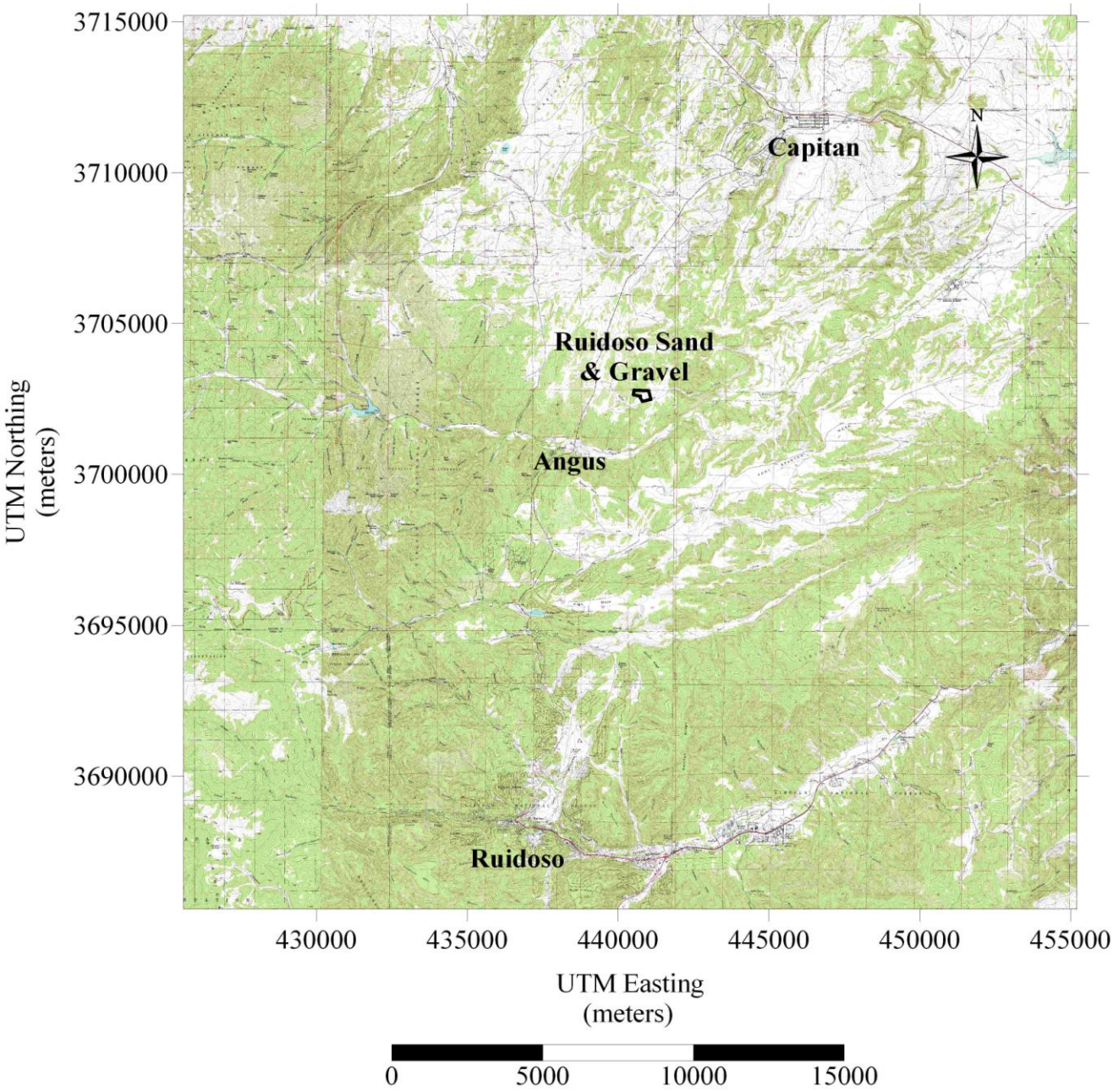

Figure 8-1: Topographical Map showing Rio Bonita HMA Restricted Boundary
7 ½" Topographical Quadrangles: Church Mountain, Nogal, Capitan, Capitan Pass, Nogal Peak, Angus, Fort Stanton, Lincoln, Sierra Blanca Peak, Ruidoso, Ruidoso Downs, Sheeppen Canyon

Section 9

Proof of Public Notice

(for NSR applications submitting under 20.2.72 or 20.2.74 NMAC)

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

✓ **I have read the AQB "Guidelines for Public Notification for Air Quality Permit Applications"**

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

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

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

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

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

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

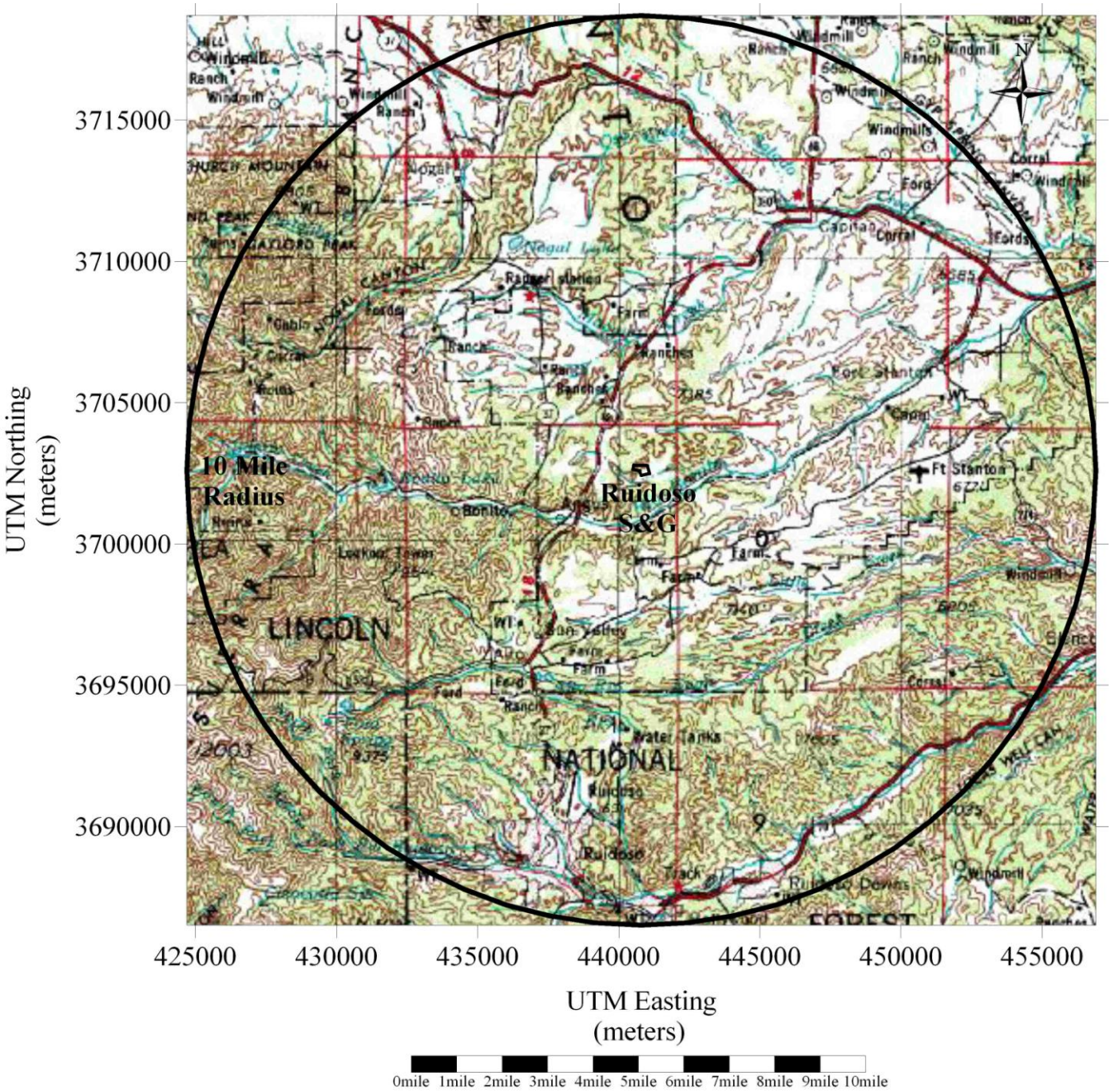

Figure 9-1: Topographical Map showing 10 Mile Radius around Ruidoso Sand & Gravel Site

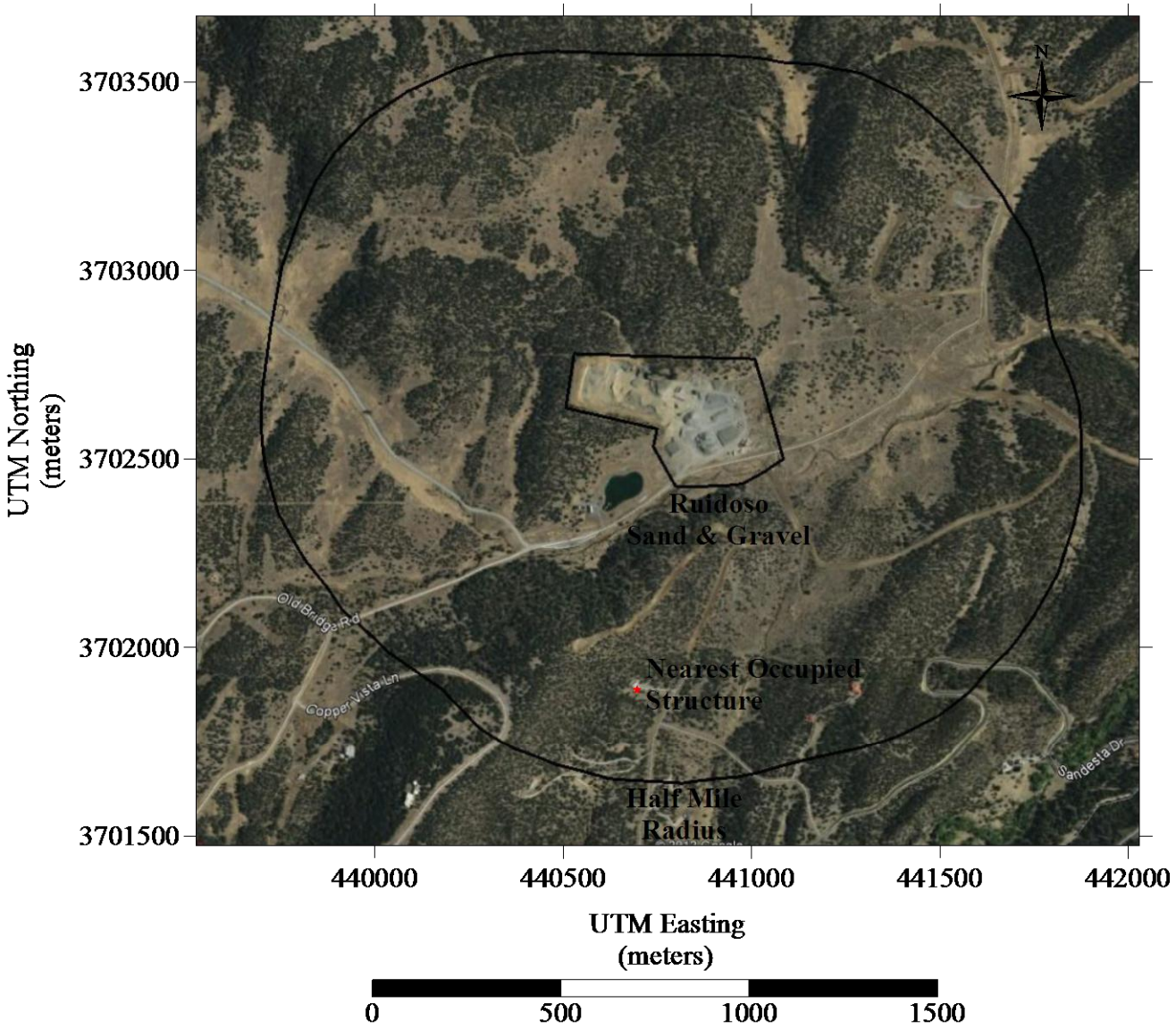

Figure 9-2: Aerial Map showing Half Mile Radius from Restricted Boundary

Neighboring Landowners within ½ Mile

Owner:	Lot	Subdivision
Takai, Hideya and Fukie	14	Copper Ridge
Higholt, Howard	23	Copper Ridge
Peterson, James	24	Copper Ridge
Turner Copper Vista LLC	25	Copper Ridge
Bodin Jr., Anthony	26	Copper Ridge
Romero, Loretta	27	Copper Ridge
Allen Desert Properties	36	Copper Ridge
Rio Bonita, LLC	37	Copper Ridge
Kevani, LLC	38	Copper Ridge
Zelt, Richard and Laureen	39	Copper Ridge
Dreben, Iver and Jacquelen	40	Copper Ridge
McFarland, II, David and Victoria	42	Copper Ridge
Brain, Stan and Constance	33	The Ranches of Sonterra
Terrian, Maichael and Marie	34	The Ranches of Sonterra
Orr, William D	35	The Ranches of Sonterra
Maestas, Richard and Marie	36	The Ranches of Sonterra
Kreltzer, Larry and Corinne	37	The Ranches of Sonterra
Holland, Curtis and Karen	38	The Ranches of Sonterra
Mangan, Michael and Luy	39	The Ranches of Sonterra
Massey, Ronald and Patericia	83A	The Ranches of Sonterra
Rainer, Dietrich and Suzanne Kolb	84	The Ranches of Sonterra
Kirby, Lynn	86	The Ranches of Sonterra
Maloney, Patrick	87	The Ranches of Sonterra
Allan, Daniel and Cynthia	88	The Ranches of Sonterra
Allan, Daniel and Cynthia	89	The Ranches of Sonterra
Hellebush, Stephan and Angela	90	The Ranches of Sonterra
Good, Shawn	91	The Ranches of Sonterra
Neill, Keith and Leslie	92	The Ranches of Sonterra
Tilton, Andrew	93	The Ranches of Sonterra
Pierce, Randell	94	The Ranches of Sonterra
Delgado, Mario	95	The Ranches of Sonterra
Heaney, Michael	96	The Ranches of Sonterra
Ahern, John and Martha	101	The Ranches of Sonterra
Mather, Lawrence and Clare	102	The Ranches of Sonterra
Farrell, Thomas and Mary	103	The Ranches of Sonterra
Ranches of Sonterra, Property Owners Association, Inc.	491A	The Ranches of Sonterra
Rio Bonita Partnership		Hideout and Copper Mountain

Counties, Municipalities, and Indian Tribes within 10 Miles

Robyn Holmes
Otero County Clerk
1104 N. White Sands Blvd. Suite C
Alamogordo, New Mexico 88310

Rhonda Burrows
Lincoln County Clerk
PO Box 338
Carrizozo, NM 88301-0338

Mescalero Apache Tribe
President Frederick Chino, Sr.
P.O. Box 227
Mescalero, NM 88340

Village of Ruidoso
313 Cree Meadows Dr.
Ruidoso, NM 88345

City of Ruidoso Downs
P.O. Box 348
123 Downs Drive
Ruidoso Downs, NM 88346

Village of Capitan
P.O. Box 246
Capitan, NM 88316

PDF File of Landowners, Counties, Municipalities, and Indian Tribes

PDF File of Newspaper Ads

PDF File of Radio Announcement

PDF File of Public Postings

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.

Ruidoso Sand & Gravel's Rio Bonita Aggregate will crush and size aggregate/recyclable material from quarries/stockpiles onsite. The Ruidoso Sand and Gravel's Rio Bonita Aggregate plant will consist of a quarry, storage material piles, an aggregate grizzly feeder with primary crusher, aggregate feeder (surge bin), screen/secondary crusher plant, ten (10) conveyors, two (2) stacker conveyors, and a 900 horsepower diesel-fired generator.

From a quarry onsite, a front-end loader dumps aggregate into the feeder (Unit 1). From the feeder, oversized material is loaded and crushed in the Primary Crusher (Unit 2). Crushed material from the primary crusher is transferred to the Feeder (surge bin) (Unit 4) by a conveyor (Unit 3). Material from the feeder is transferred to the Screen (Unit 6) for sizing by a conveyor (Unit 5). Oversized material from the screen is loaded and crushed by the Secondary Crusher (Unit 7). From the secondary crusher material is conveyed back to the screen for further sizing. Product from the screen is conveyed and stacked on one of two storage piles (AGGPILES). From the aggregate plant storage piles, material is transferred to the Finish Storage Piles (FPILES) or loaded into aggregate haul trucks by front-end loader.

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 10% opacity at screening and conveyor transfer points and 15% opacity at crushing operations with units constructed, modified, or reconstructed on or after August 31, 1983 and before April 22, 2008 or to no more than 7% opacity at screening and conveyor transfer points and 12% opacity at crushing operations with units constructed, modified, or reconstructed on or after April 22, 2008. No fugitive dust controls are proposed for the feeder loading or aggregate storage piles.

The plant is powered by a 600 kW (900 hp) diesel-fired main plant generator (Unit 16). No emission controls are proposed for the generator.

A process flow diagram is presented as Figure 4-1 in Section 4. There are no pollution controls for the Grizzly Feeder (Unit 1), Aggregate Storage Piles (AGGPILES), Finish Storage Piles (FPILE), or Main Plant Generator (Unit 16).

All truck traffic travels to the aggregate plant on the access road. The road is controlled with base course and watering. All truck traffic leaves the same way. Aggregate materials come from the Quarry/Stockpiles (RAW) onsite.

Annual emissions are controlled by permit limits on annual production for processing equipment and hours of operation for generators.

Section 11

Source Determination

Source submitting under 20.2.70, 20.2.72, 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, 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)**:** Facilities evaluated include: Rio Bonita Aggregate producing aggregate material for the new permitted HMA plant (Rio Bonita HMA) owned and operated by Ruidoso Sand & Gravel and other clients.

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

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

☐ **Yes** ✓ **No**

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

✓ **Yes** ☐ **No**

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

✓ **Yes** ☐ **No**

C. Make a determination:

✓ The source, as described in this application, constitutes the entire source for 20.2.70, 20.2.72, 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, 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, or 20.2.74 NMAC applicability purposes (A permit may be issued for a portion of a source). The entire source consists of the following facilities or emissions sources (list and describe):

Section 12

Section 12.A
PSD Applicability Determination for All Sources

(Submitting under 20.2.72, 20.2.74 NMAC)

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

A. This facility is:

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

B. **This facility is not one of the listed 20.2.74.501 Table I – PSD Source Categories. The project emissions for this project are as follows:**

a. **NOx: 37 TPY**
b. **CO: 17 TPY**
c. **VOC: 1 TPY**
d. **SOx: 0.6 TPY**
e. **TSP (PM): 16 TPY**
f. **PM10: 7 TPY**
g. **PM2.5: 2 TPY**

This facility is a new NSR minor source, which is not a PSD source, because it will be less than 250 tpy of any regulated pollutant and is not a PSD source category as listed in 20.2.74.501 Table I.

Section 13

Discussion Demonstrating Compliance With Each Applicable State & Federal Regulation

Provide a discussion demonstrating compliance with applicable state & federal regulation. If there is a state or federal regulation (other than those listed here) for your facility's source category that does not apply to your facility, but seems on the surface that it should apply, add the regulation to the appropriate table below and provide the analysis. Examples of regulatory requirements that may or may not apply to your facility include 40 CFR 60 Subpart OOO (crushers), 40 CFR 63 Subpart HHH (HAPs), or 20.2.74 NMAC (PSD major sources). We don't want a discussion of every non-applicable regulation, but if there is questionable applicability, explain why it does not apply. All input cells should be filled in, even if the response is 'No' or 'N/A'.

In the "Justification" column, identify the criteria that are critical to the applicability determination, numbering each. For each unit listed in the "Applies to Unit No(s)" column, after each listed unit, include the number(s) of the criteria that made the regulation applicable. For example, TK-1 & TK-2 would be listed as: TK-1 (1, 3, 4), TK-2 (1, 2, 4). Doing so will provide the applicability criteria for each unit, while also minimizing the length of these tables.

As this table will become part of the SOB, please do not change the any formatting in the table, especially the width of the table.

If this application includes any proposed exemptions from otherwise applicable requirements, provide a narrative explanation of these proposed exemptions. These exemptions are from specific applicable requirements, which are spelled out in the requirements themselves, not exemptions from 20.2.70 NMAC or 20.2.72 NMAC.

Example of a Table for Applicable STATE REGULATIONS:

STATE REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.3 NMAC	Ambient Air Quality Standards NMAAQS	X				20.2.3 NMAC is a SIP approved regulation that limits the maximum allowable concentration of Total Suspended Particulates, Sulfur Compounds, Carbon Monoxide and Nitrogen Dioxide. Title V applications, see exemption at 20.2.3.9 NMAC
20.2.7 NMAC	Excess Emissions		2,3,4,5,6,7,8,9,10,11,12, 13,14, 15,16 AGGPILES			All Title V major sources are subject to Air Quality Control Regulations, as defined in 20.2.7 NMAC, and are thus subject to the requirements of this regulation.
20.2.61.109 NMAC	Smoke & Visible Emissions		16			Engines and heaters are Stationary Combustion Equipment.
20.2.70 NMAC	Operating Permits				X	N/A
20.2.71 NMAC	Operating Permit Fees				X	N/A
20.2.72 NMAC	Construction Permits	X				This facility is subject to 20.2.72 NMAC
20.2.73 NMAC	NOI & Emissions Inventory Requirements	X				**Emissions Inventory Reporting:** 20.2.73.300 NMAC applies. All Title V major sources meet the applicability requirements of 20.2.73.300 NMAC.
20.2.74 NMAC	Permits – PSD				X	N/A

STATE REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION: Identify the applicability criteria, numbering each (i.e. 1. Post 7/23/84, 2. 75 m^3, 3. VOL)
20.2.75 NMAC	Construction Permit Fees	X				This facility is subject to 20.2.72 NMAC and is in turn subject to 20.2.75 NMAC. N/A if subject to 20.2.71 NMAC.
20.2.77 NMAC	New Source Performance		2,3,4,5,6,7,8,9,10,11,12, 13,14, 15,16 AGGPILES	X		This is a stationary source which is subject to the requirements of 40 CFR Part 60, as amended through January 31, 2009.
20.2.78 NMAC	Emission Standards for HAPS				X	N/A
20.2.79 NMAC	Permits – Nonattainment Areas				X	N/A
20.2.80 NMAC	Stack Heights				X	N/A
20.2.82 NMAC	MACT Standards for source categories of HAPS		16	X		This regulation applies to all sources emitting hazardous air pollutants, which are subject to the requirements of 40 CFR Part 63, as amended through January 31, 2009.

Example of a Table for Applicable FEDERAL REGULATIONS (Note: This in not an exhaustive list):

FEDERAL REGU-LATIONS CITATION	Title	Applies to Entire Facility	Applies to Unit No(s).	Federally Enforce-able	Does Not Apply	JUSTIFICATION:
40 CFR 50	NAAQS	X				Defined as applicable at 20.2.70.7.E.11, Any national ambient air quality standard
NSPS 40 CFR 60, Subpart A	General Provisions		2,3,4,5,6,7, 8,9,10,11, 12,13,14, 15,16 AGGPILES	X		Applies if any other NSPS subpart applies.
NSPS 40 CFR 60, Subpart Kb	Standards of Performance for **Volatile Organic Liquid Storage Vessels** for Which Construction, Reconstruction, or Modification Commenced **After** July 23, 1984				X	N/A
NSPS 40 CFR 60, Subpart IIII	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines		16			The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE). Unit 16 is applicable to Subpart IIII.
NSPS 40 CFR Part 60 Subpart JJJJ					X	N/A
NSPS 40 CFR 60, Subpart 000	Standards of Performance for Nonmetallic Mineral Processing Plants		2,3,4,5,6,7, 8,9,10,11, 12,13,14, 15, AGGPILES	X		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..
NESHAP 40 CFR 63 Subpart A	General Provisions		16	X		This part applies to the owner or operator of any stationary source for which a standard is prescribed under this part.
NESHAP 40 CFR 63 Subpart ZZZZ	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines		16	X		Facilities are subject to this subpart if they own or operate stationary RICE, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

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.

Operational Plan to Mitigate Source Emissions During Scheduled Maintenance, Malfunction, Startup, or Shutdown

Startup
For material processing equipment at the Ruidoso Sand & Gravel's Rio Bonita Aggregate plant, Ruidoso Sand & Gravel will follow normal industry practices in minimizing emissions during startup and shutdown. During startup of the plant all control devices (addition of moisture and/or water sprays) will be operating prior to beginning production. Prior to the shutdown of any control devices, material transfers for that system will end. Scheduled maintenance will occur during off production periods

Shutdown
All required control equipment will operate until all aggregate production ceases.

Maintenance
The water sprays will be maintained to prevent excess emissions during startup or shutdown. This facility will not have excess emissions during any maintenance procedures.

Malfunction
Upon malfunction where excess particulate emissions are observed from Units 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, repairs to water sprays control equipment will be made prior to the next operational day or within reasonable availability of replacement parts and man-hours.

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.

No alternative operating scenarios for this facility.

Section 16

Air Dispersion Modeling

NSR (20.2.72 NMAC) and PSD (20.2.74 NMAC) Modeling: Provide an air quality **dispersion modeling** demonstration (if applicable) as outlined in the Air Quality Bureau's Dispersion Modeling Guidelines. If air dispersion modeling has been waived for this permit application, attach the AQB Modeling Section modeling waiver documentation.

SSM Modeling: Applicants must conduct dispersion modeling for the total short term emissions 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.nmenv.state.nm.us/aqb/permit/app_form.html) for more detailed instructions on SSM emissions modeling requirements.

Title V (20.2.70 NMAC) Modeling: Title V applications must specify the NSR Permit number for which air quality dispersion modeling was last submitted. Additionally, Title V facilities reporting new SSM emissions require modeling or a modeling waiver to demonstrate compliance with standards.

This dispersion modeling analysis is being conducted to support an application for a NSR permit for Ruidoso Sand & Gravel's Rio Bonita Aggregate. This application seeks to demonstrate compliance with the New Mexico Ambient Air Quality Standards (NMAAQS), the National Ambient Air Quality Standards (NAAQS), and PSD Class I and II Increment Standards. The aggregate plant will be co-located at its initial site with a new HMA plant that will be owned and operated by Ruidoso Sand & Gravel, identified as Rio Bonita HMA. Relocation setback modeling will be performed that will allow the Rio Bonita Aggregate to be co-located with any GCP3, GCP5, or Ruidoso Sand & Gravel's Rio Bonita HMA plant.

The Ruidoso Sand and Gravel's Rio Bonita Aggregate plant will consist of a quarry, storage material piles, an aggregate grizzly feeder with primary crusher, aggregate feeder (surge bin), screen/secondary crusher plant, ten (10) conveyors, two (2) stacker conveyors, and a 900 horsepower diesel-fired generator. Requested operating times with this permit will be seven days per week and 52 weeks per year. Requested daily operating hours will include operating during daylight hours. During the months of November through February, aggregate processing will be permitted for 1600 tons per day. During the months of March through October, aggregate processing will be permitted for 2000 tons per day. The annual aggregate processing limit will be 680,000 tons per year. The main plant generator will be permitted to operating 3400 hours per year. Since daily production will be limited to 1600 tons per day for the months of November through February and 2000 tons per day for the months of March through October with an average hourly processing rate or 200 tons, the maximum number of hours the facility can run at the maximum hourly throughput will be 8 hours per day for the months of November through February and 10 hours per day for the months of March through October.

Modeling was performed using two scenarios for hours of operation at maximum capacity for the aggregate plant. Dispersion modeling experience shows that worst-case hourly concentrations occur during early morning or evening hours. To address this in the modeling, two modeling scenarios will be performed, all hours of operation are during the morning hours until the daily production limits are met or all hours are in the evening until the daily production limit is met.

Co-located on site will be a new hot mix asphalt plant owned and operated by Ruidoso Sand & Gravel, identified as Rio Bonita HMA. This co-located source along with significant neighboring sources was included in the dispersion modeling CIA analysis. The neighboring source data was received from Eric Peters of the NMED ABQ Modeling Section.

The highest model results for operation of the Ruidoso Sand & Gravel's Rio Bonita Aggregate, co-located Rio Bonita HMA, and applicable neighboring sources are summarized below in Tables 16-1, 16-2,16-3, and 16-4. No SSM modeling was performed for this facility.

TABLE 16-1: Summary of Air Dispersion Modeling Results for Combustion Pollutant Sources

Parameter	Maximum Modeled Concentration ($\mu g/m^3$)	Maximum Modeled Concentration With Background ($\mu g/m^3$)	Lowest Applicable Standard ($\mu g/m^3$)	% of Standard
CO 1 Hr.	716.1	2608.2	11803.0	22.1
CO 8 Hr.	184.9	1536.4	7838.6	19.6
SO_2 3 Hr.	97.9	112.9	1309.6	8.6
SO_2 24 Hr.	21.2	36.2	205.9	17.6
SO_2 Annual	2.5	17.5	41.2	42.5
NO_2 24 Hr.	68.7	123.5	148.1	83.4
NO_2 Annual	32.7	40.1	74.0	54.2
Asphalt Fumes 8 Hr	14.2	***	50	28.4

Note: NO_X modeled concentrations were converted to NO_2 using fixed conversion rates of 75% for annual modeled concentrations and 40% for 24 hour modeled concentrations.

TABLE 16-2: Summary of Air Dispersion Modeling Results for Particulate Emitting Sources

Parameter	Maximum Modeled Concentration ($\mu g/m^3$)	Maximum Modeled Concentration With Background ($\mu g/m^3$)	Lowest Applicable Standard ($\mu g/m^3$)	% of Standard
$PM_{2.5}$ 24 Hr. 1th Highest	***	31.6	35	90.3
$PM_{2.5}$ Annual	2.9	9.1	15	60.7
PM_{10} 24 Hr.	***	84.7	150	56.5
TSP 24 Hr.	***	138.0	150	92.0
TSP Annual	14.5	41.2	60	68.7

Note: Background concentrations based on "New Mexico Air Pollution Control Bureau, Dispersion Modeling Guidelines", revised July 29, 2011. Background is based on Roswell Monitoring Data. "***" background data included in model results.

TABLE 16-3: Summary of Air Dispersion Modeling Results for PSD Class I Increment

Parameter	Maximum Modeled Concentration ($\mu g/m^3$)	Increment Standard ($\mu g/m^3$)	% of Standard
NO_2 Annual Increment	0.025	2.5	1.0
PM_{10} Annual Increment	0.0094	4	<1.0
PM_{10} 24 Hr. Increment High 2nd High	0.27	8	3.4

TABLE 16-4: Summary of Air Dispersion Modeling Results for PSD Class II Increment

Parameter	Maximum Modeled Concentration ($\mu g/m^3$)	Increment Standard ($\mu g/m^3$)	% of Standard
NO_2 Annual Increment	24.8	25	99.2
PM_{10} Annual Increment	7.1	17	41.8
PM_{10} 24 Hr. Increment High 2nd High	29.2	30	97.3

Dispersion Model Report File Attached

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
New Permit		

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.

N/A

Section 22

Green House Gas Applicability

(submitting under 20.2.70, 20.2.72, 20.2.73, 20.2.74 NMAC)

Title V (20.2.70 NMAC), NSR (20.2.72 NMAC), NOI (20.2.73 NMAC) and PSD (20.2.74 NMAC) applicants must determine if they are subject to Title V permitting and/or PSD permitting for green house gas (GHG) emissions. GHG emissions are the sum of the aggregate group of six green house gases that include carbon dioxide (CO_2), nitrous oxide (N_2O), methane (CH_4), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). There are two thresholds that must be computed to determine applicability. The first threshold is the sum of GHG mass emissions in TPY. GHG mass emissions are the sum of the total annual tons of green house gases without adjusting with the GWPs. The second threshold is the sum of CO_2 equivalent (CO_2e) emissions in TPY GHG. CO_2e emissions are the sum of the mass emissions of each individual GHG multiplied by its global warming potential (GWP) found in Table A-1 in 40 CFR 98 Mandatory Greenhouse Gas Reporting.

Green House Gas TV and PSD Applicability Determination:

☐ **Notice of Intent Sources** (20.2.73 NMAC): By checking this box and certifying this application the applicant certifies that the facility, based upon the quantity of stack emissions, including start up, shut down, and maintenance emissions, is not subject to 20.2.70 NMAC or 20.2.74 NMAC for Green House Gas (GHG) Emissions. The Department may request the emissions calculations and other documents supporting this determination.

Minor NSR (20.2.72 NMAC), PSD Major (20.2.74 NMAC), and Title V (20.2.70 NMAC) sources must complete the steps outlined below to determine GHG TV and/or PSD applicability.

1. Calculate existing mass GHG and CO_2e emissions from your source. For PSD purposes, if this is a modification to an existing source, you must also calculate the increase in mass GHG and CO_2e emissions due to the modification. Start up, shut down, and maintenance emissions must be included.
2. See Tables 1 and 2 below and compare your mass GHG and CO_2e emissions to the appropriate category for your source.
3. If your source meets all of the criteria within a category, then you must obtain a PSD permit and/or a Title V permit for green house gas emissions.
4. If this is a GHG Major source with an existing BACT or if this is a permit application for a PSD or Title V permit with GHG above the thresholds in Tables 1 or 2, include the emissions calculations and supporting documents in the appropriate sections of this application unless instructed otherwise in Tables 1 or 2. Report GHG mass and CO_2e emissions in Table 2-P of this application unless instructed otherwise in Tables 1 or 2. Emissions are reported in **short** tons per year and represent each emission unit's Potential to Emit (PTE).

NSR (20.2.72 NMAC), PSD Major (20.2.74 NMAC), and Title V (20.2.70 NMAC): Based upon the GHG applicability criteria in this section the applicant certifies that the source is (check all that apply):

✔ Title V Minor and PSD Minor for GHG Emissions [The Department may request the emissions calculations and other documents supporting this determination.]

☐ Title V Major for GHG Emissions

☐ PSD Major for GHG Emissions

Table 1 - Title V Applicability Criteria		
On or after July 1, 2011, newly constructed source, or existing source that does not have a Title V permit	**On or after July 1, 2011, modification or Renewal to Existing Title V Source**	**Requirement**
Source emits or has potential to emit (PTE) ≥ 100,000 TPY CO_2e **and** 100 TPY GHG mass basis	Source emits or has PTE of ≥100,000 TPY CO_2e **and** 100 TPY GHG mass basis	**For new sources:** For a source that meets the criteria on July 1, 2011, submit a Title V permit application no later than June 30, 2012.

Table 1 - Title V Applicability Criteria		
		For a source that meets the criteria after July 1, 2011, submit a Title V application within 12 months of becoming subject to the GHG operating permit program (12 months from commencement of operation of the new unit or modification that caused the source to be subject to Title V). **<u>For existing sources:</u>** Include GHG with the next Title V application for a renewal or modification. **<u>For both new and existing sources</u>:** Include in the TV application, GHG emissions calculations and supporting documents, report CO_2e and GHG emissions in Table 2-P, and address any applicable CAA requirements (e.g. PSD BACT, NSPS). If there are no applicable requirements and if GHG emissions have been reported to the Department under 20.2.73 NMAC, the requirements of the previous sentence do not apply, but changes in GHG emissions resulting in GHG emission limits must be calculated and reported in Table 2-P for Title V permit modifications. Typically GHG emission limits would be established only when there is an applicable requirement, such as a PSD GHG BACT or limits taken to be GHG synthetic minor.

Table 2 - PSD Applicability Criteria			
On or After July 1, 2011, New Source	**On or After July 1, 2011, Major Modification to Existing PSD Major Source**	**On or After July 1, 2011, Modification to Existing PSD Minor Source**	**Requirement**
Source is subject to PSD for another pollutant **and** GHG PTE is ≥ than 75,000 tpy CO_2e **<u>or</u>** GHG PTE is ≥ 100,000 TPY CO_2e **and** ≥ 100/250 TPY mass basis	Source is subject to PSD for another regulated pollutant **and** net GHG emissions increase is ≥ 75,000 tpy CO_2e and greater than zero TPY mass basis **<u>or</u>** existing source has GHG PTE ≥ 100,000 TPY CO_2e **and** ≥ 100/250 TPY mass basis **and** net emissions GHG increase is ≥ 75,000 TPY	Actual or potential emissions of GHGs from the modification is ≥ 100,000 TPY CO_2e **and** ≥ 100/250 TPY mass basis. Minor PSD sources cannot net out of PSD review.	The source is subject to PSD permitting for GHG emissions and other regulated pollutants that are significant. In the application include GHG emissions calculations and supporting documents, report CO_2e and GHG emissions in Table 2-P, complete a GHG BACT determination, and include the TPY CO_2e and GHG mass emissions in the public notice. **Note:** If a minor source permit is issued after January 2, 2011, but before July 1, 2011, and construction has not commenced by July 1, 2011, the permit must be

Table 2 - PSD Applicability Criteria			
	CO_2e and greater than zero TPY mass basis		cancelled, reopened, or an additional PSD permitting action taken, if the approved change/construction would trigger GHG PSD after July 1, 2011.

Additional Information:

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/
- Subparts C through UU of 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 and TV 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/ghgresources.html:
  - ENERGY STAR Industrial Sector Energy Guides and Plant Energy Performance Indicators (benchmarks) http://www.energystar.gov;
  - US EPA National Greenhouse Gas Inventory, http://epa.gov/climatechange/emissions/usinventoryreport.html;
  - EPA's Climate Leaders, http://www.epa.gov/climateleaders/index.html
  - EPA Voluntary Partnerships of GHG Reductions that include the landfill methane outreach program, the CHP partnership program, the Green Power Partnership, the Coalbed Methane Outreach program, the Natural Gas STAR program, and the Voluntary Aluminum Industrial Partnership.
  - SF Emission Reduction Partnership for the Magensium Industry http://www.epa.gov/highgwp/magnesium-sf6/index.html
  - PFC Reduction/Climate Partnership for the Semiconductor Industry http://www.epa.gov/highgwp/semiconductor-pfc/index.html

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. Please note that sources not subject to 40 CFR 98 and/or 20.2.300 NMAC may still be subject to the GHG PSD and/or TV permitting. 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 this part 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.O NMAC, 20.2.74.7.Y NMAC).** You may also find GHGs defined in 40 CFR 86.1818-12(a).

Short Tons:
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)

EPA's GHG Tailoring Rule:
To review EPA's final GHG Tailoring rule and pre-amble, See "Final GHG Tailoring Rule dated May 13, 2010 located on EPA's NSR Regulations Webpage or Federal Register June 3, 2010 Volume 75, No. 106
http://www.epa.gov/nsr/actions.html

EPA Permitting Guidance:
EPA's Permitting Guidance for GHG and other GHG information can be found on EPA's NSR Clear Air Act Permitting for Greenhouse Gases webpage.
http://www.epa.gov/nsr/ghgpermitting.html

Section 23: Certification

Company Name: Ruidoso Sand & Gravel, a Division of Southwest Paving and Grading, Inc.

I, D'Anna Wood, 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 9th day of August, 2012, upon my oath or affirmation, before a notary of the State of New Mexico.

D'Anna Wood
*Signature

August 9, 2012
Date

D'Anna Wood
Printed Name

Vice President
Title

Scribed and sworn before me on this 9th day of August, 2012.

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

27th day of January, 2015.

Colleen Weingard
Notary's Signature

8-9-12
Date

Colleen Weingard
Notary's Printed Name

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

OFFICIAL SEAL
Colleen Weingard
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 1-27-2015