217/782-2113

CONSTRUCTION PERMIT - NSPS SOURCE – REVISED

PERMITTEE

Lone Star Industries, Inc.
Attn: Christa Russell
Portland Avenue
Oglesby, Illinois 61348

Application No.: 98060102 I.D. No.: 099816AAF
Applicant's Designation: SOUTH QUARRY Date Received: December 23, 2002
Subject: South Quarry
Date Issued:
Location: Portland Avenue, Oglesby

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of the following equipment and operations, pursuant to the above-referenced application. This permit is subject to standard conditions attached hereto and the following special conditions:

South Quarry Operations and Equipment

Overburden Removal Including Scrapper Travel and Unloading

Drilling and Blasting

Truck Loading, Transporting, and Dumping

Primary Crusher Controlled by a Dust Collector with Truck Dump Stilling Shed

Screens Controlled by a Dust Collector

Assorted Conveyors/Trippers Controlled by Dust Collectors

1a. The following affected facilities: each crusher, grinding mill, screening operations, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or rail car loading stations, as defined in 40 CFR 60.671 are subject to New Source Performance Standards (NSPS), 40 CFR 60, Subparts A and OOO. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.

b. i. Particulate matter emissions from vents or stacks shall not exceed 0.05 gm/dscm (0.022 gr/dscf) and 7 percent opacity (40 CFR 60.672(a)).

ii. Particulate matter emissions shall not exceed 0.05 gm/dscm (0.022 gr/dscf) and there shall be no visible emissions from any buildings enclosing any crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation,

storage bin, enclosed truck or railcar loading stations except that emissions from any vent(s) of any building enclosing these operations affected shall not exceed 7 percent opacity [40 CFR 60.672(e)].

c. i. Fugitive emissions of particulate matter from each crusher, at which a capture system is used, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, enclosed truck or railcar loading operations storage bins, and enclosed truck or rail loading stations excluding truck dumping into any screening operation, feed hopper, or crushing operation shall not exceed 10 percent opacity, [40 CFR 60.672(b) and (d)].

ii. Fugitive emissions of particulate matter from any crushing operation, at which a capture system is not used, except from truck dumping, shall not exceed 15 percent opacity, [40 CFR 60.672(c) and (d)].

d. At all times the Permittee shall also, to the extent practicable, maintain and operate these sources, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions.

2a. Emission units at this source are subject to the following regulations of general applicability:

i. No person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally overhead at a point beyond the property line of the source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 IAC 212.301 and 212.314.

ii. A. All normal traffic pattern roads and parking facilities located at this source shall be paved or treated with water, oils, or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils, or chemical dust suppressants shall have the treatment applied on a regular basis, as needed, in accordance with the operating program [35 IAC 212.306].

B. The source, including this new quarry, shall be operated under the provisions of an operating program prepared by the Permittee. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions [35 IAC 212.309(a)].

C. The operating program for the source shall be amended to include this new quarry by the Permittee so that the operating program is current. Such amendments shall be consistent with the requirements set forth by this

Condition and shall be submitted to the Illinois EPA [35 IAC 212.312].

iii. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 IAC 212.122, pursuant to 35 IAC 212.123(a), except as allowed by 35 IAC 212.123(b) and 212.124.

b. Existing fuel handling activities at the source are subject to the following requirements upon initial startup of the south quarry:

i. The coal and coke storage pile area shall be enclosed by a two-sided roofed structure such that in conjunction with other control techniques a minimum of a 30% control efficiency of particulate matter is achieved and maintained.

ii. A minimum particulate matter control efficiency of 30% associated with front-end loader dumping shall be maintained at the coal and coke receiving areas.

iii. A minimum particulate matter control efficiency of 85% shall be maintained for all front-end loader travel associated with the coal and coke storage piles by using one or more of the following measures:

A. Applying water at an application rate at least 2.0 L/m^2 (0.4 gal/yd^2) applied once every 4 hours of operation except under conditions specified in 35 IAC 212.424(d)(3). Watering shall begin within one hour of commencement of front-end loader operation each day.

B. Applying Magnesium Chloride in a wet stage once every 50 days.

C. Applying Magnesium Chloride in a dry stage once every 26 days.

D. Applying Nalco 655 once every 29 days.

E. Applying Nalco 656 once every 27 days.

F. Applying Lignosulfonate in a 4:1 concentration once every 23 days.

G. Applying Lignosulfonate in a 8:1 concentration once every 21 days.

H. Applying Coherex in a 9:1 concentration once every 20 days.

I. Other measures specified in a future permit for the source.

3a. The Permittee shall not exceed the following limits:

i. The quantity of disturbed overburden removed shall not exceed 2,900,000 tons/year.

ii. The quantity of material processed shall not exceed 1,162,512 tons/year.

iii. The quantity of material screened shall not exceed 2,325,024 tons/year.

iv. The quantity of material conveyed shall not exceed 12,787,632 tons/year.

b. The Permittee shall implement the following practices for quarry operations to provide a reasonable assurance of compliance with the applicable emission standards and the conditions of this permit.

i. Each quarry operation shall be equipped and operated with such wind deflectors (covers), enclosures, dust collectors, and other measures as identified by applicable regulations and the conditions of this permit. If necessary, each quarry operation shall be treated with water or dust suppressant to minimize, in conjunction with other control measures, particulate matter escaping from the quarry operations.

ii. All roadways traveled by trucks going to and from the primary crusher in the process of transporting raw limestone, shale, and other materials to the crusher shall be watered at an application rate at least 1.5 L/m^2 (0.3 gal/yd^2) applied once every 4.5 hours of operation except under conditions specified in 35 IAC 212.424(d)(3). Watering shall begin within one hour of commencement of truck traffic each day.

iii. All roadways and scraper passes traveled by the scraper during the overburden removal process shall be watered at an application rate at least 1.5 L/m^2 (0.3 gal/yd^2) applied once every hour of operation except under conditions specified in 35 IAC 212.424(d)(3). Watering shall begin within one hour of commencement of scraper operation each day.

iv. Other roadways shall be treated with water or dust suppressant to minimize, in conjunction with other control measures, particulate matter escaping from the operations.

c. Emissions from the south quarry shall not exceed the following limits:

	E M I S S I O N S			
	PM		PM_{10}	
Operation	(T/Mo)	(T/Yr)	(T/Mo)	(T/Yr)
Overburden Removal	3.0	24.0	1.54	12.3
Scraper Travel	10.1	79.6	2.60	20.3
Truck Transport	1.6	12.7	0.6	4.6

Operation	E M I S S I O N S PM (T/Mo)	PM (T/Yr)	PM_{10} (T/Mo)	PM_{10} (T/Yr)
Blasting	0.01	0.04	0.01	0.02
Scraper Loading	7.3	58.0	3.7	29.5
Limestone Drilling	0.01	0.1	0.01	0.1
Truck Loading	0.6	4.8	0.2	1.7
Truck Dumping	0.01	0.01	0.01	0.01
Crushing	0.01	0.10	0.01	0.10
Screening	0.6	4.4	0.3	2.1
Conveying	0.3	2.2	0.1	1.1
Storage Pile Drops	0.01	0.10	0.01	0.10
Total		186.00		72.00

Operation	Minimum Overall Control Efficiency
Roadway Watering	75%
Stilling Shed	50%
Crushing	88.2%
Screening	88.2%
Conveying	88.2%
Storage Pile Drops	98.0%

These limits are based on maximum disturbed overburden removed, maximum material processed, standard and engineering estimated emission factors, and minimum overall control efficiencies as further specified in Attachment Table II, Emission Increases from South Quarry. Compliance with the annual limits shall be determined from the sum of the data for the current month plus the preceding 11 months.

4a. This permit is issued based upon a contemporaneous and creditable decreases in emissions of particulate matter from the shutdown of the existing quarry such that the net increase in emissions of particulate matter from the south quarry are not significant. Therefore, this project is not subject to the Rules for the Prevention of Significant Deterioration of Air Quality, 40 CFR 52.21. The accounting of increases and decreases in emissions are shown in Tables I, II, III, and IV of the attachments.

b. The Permittee shall shutdown the existing quarry so as to provide total annual emission reductions, estimated at 276 tons of PM and 96 tons of PM_{10}, subject to the following transition provisions. These detailed transition provisions are established to address the specific circumstances surrounding the Permittee's transfer of quarrying activity from the existing quarry to the new quarry. Several years of reserves may remain in the existing quarry at initial startup of the new south quarry, at which time, the Permittee intends to shakedown the new processing equipment, removing sufficient rock for that purpose and to confirm the properties of the rock for production of cement. The Permittee then intends to resume quarrying operations at the existing quarry, to complete removal of its reserves. If difficulties are

encountered in the initial startup of the new quarry, either in terms of the processing equipment or rock quality, the Permittee may have to resume operation at the existing quarry before the capabilities of the new south quarry are established. Operation may have to switch several times between the quarries before the new quarry is established, to maintain a continuous supply of suitable rock to the kiln while not wasting the reserves at the existing quarry. The transition and site reclamation provisions of this permit are intended to assure that a significant increase in emissions does not occur during the period when either quarry may be operating.

i. Upon the beginning of initial operation of the south quarry and stone processing equipment, including overburden removal and other start-up operations, total combined operation of the south quarry and the existing quarry and stone processing equipment shall not exceed the limits established in Condition 3(a) of this permit for the new operations and total annual emissions shall not exceed 276 tons of PM and 96 tons of PM_{10}.

ii. Upon the beginning of normal operation, and no later than 180 days after initial operation of the south quarry and south quarry stone processing equipment, the existing quarry and stone processing equipment, other than mine reclamation activities shall not operate at the same time as the south quarry and south quarry processing equipment.

iii. Operation of the existing quarry and stone processing equipment, other than mine reclamation activities, shall permanently cease operation within 3 years after principal operation of the south quarry processing equipment begins.

Note: Principal operation is defined as the point when 50% or more by weight of the rock supplied to the kiln over a 12 month period will be produced from the south quarry.

5. This permit authorizes an initial operation period of 270 days under this permit for the equipment being constructed and modified under this permit for equipment shakedown, testing, and Illinois EPA evaluation of test results and operations to assure compliance with applicable requirements. The emission units covered by this permit are required to meet all applicable requirements, including the special conditions contained in this permit at all times, including during the initial operation period. If the above specified period is an insufficient time period for equipment shakedown, testing and Illinois EPA evaluation, the Permittee may request in writing an extension of the initial operation period.

6a. The Permittee shall notify the Illinois EPA as required by 40 CFR 60.7, including:

i. Commencement of construction including commencement of overburden removal from the south quarry.

ii. Actual date of the initial start of operation of the south quarry processing equipment.

iii. Actual date of the beginning of principal operation at the south quarry.

iv. Expected date for conducting the opacity observations as required by 40 CFR 60.11(e)(i).

v. Actual date the existing quarry permanently ceases operation, as required by condition 4(b)(iii).

b. During the transition period, when both the new south quarry and the existing quarry may operate, the Permittee shall notify the Illinois EPA each time that activity is shifted from quarry to quarry, with the reason that operation shifted and the expected duration of activity at that quarry.

7a. Within 60 days after each affected facility achieves maximum production, but not later than 270 days after initial startup pursuant to 40 CFR 60.675 and 60.8, the opacity from the affected facilities shall be measured during conditions which are representative of the maximum emissions. The Illinois EPA may provide additional time for the performance of this testing upon request from the Permittee which shows that it is not feasible to perform representative testing within this time frame.

b. i. The methods and procedures in USEPA Method 9, 40 CFR 60 Appendix A, as further modified by 40 CFR 60.675, shall be used for opacity measurements.

ii. If the above screening criteria are not satisfied, 30 sets of 24 consecutive observations shall be conducted for an affected facility during representative operating conditions.

c. The Illinois EPA shall be notified prior to these measurements to enable the Illinois EPA to observe these measurements. Notification of the expected date of the measurements shall be submitted to a minimum of thirty (30) days prior to the expected date. Notification of the actual date and expected time of measurement shall be submitted a minimum of five (5) working days prior to the actual date of the measurement. The Illinois EPA may, at its discretion, accept notification with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe the measurements.

8. The Permittee shall inspect quarry operation and associated control measures on at least a weekly basis to verify compliance with the control requirements of this permit.

9a. i. The Permittee shall maintain a record of the current measures that the source is following for quarry operations to minimize emissions of particulate matter, including the minimum levels of

moisture or dust suppressant in material prior to processing at the source and other control measures that are sufficient to comply with applicable requirements and Condition 3 of this permit.

ii. Accompanying this record, the Permittee shall maintain a demonstration that confirms that the above minimum practices are sufficient to assure compliance with applicable requirements and Condition 3 of this permit at the maximum process weight rate at which each material processing operation can be operated (ton material/hour), with supporting emission calculations and documentation for the emission factors and the efficiency of the control measures being relied upon by the Permittee.

b. The Permittee shall maintain records of the following for the inspections required by Condition 8, for quarry operation:

i. Date and time the inspection was performed and name(s) of inspection personnel;

ii. The observed condition of the accepted control measures as identified in the records pursuant to Condition 7.3.9(a) for the affected limestone handling equipment;

iii. A description of any maintenance or repair associated with control measures that is recommended as a result of the inspection and a review of outstanding recommendations for maintenance or repair from previous inspection(s), i.e., whether recommended action has been taken, is yet to be performed or nor longer appears to be required; and

iv. A summary of compliance, compared to the minimum accepted control measures.

c. The Permittee shall maintain records of the following for each incident when any quarry operation operated without the minimum accepted control measures, as identified in the records pursuant to Condition 9a, above:

i. The date of the incident and identification of the affected operation(s) that were involved;

ii. A description of the incident, including the control measures that were not present or implemented; the accepted control measures that were present, if any; other control measures or mitigation measures that were implemented, if any; and the magnitude of the PM emission rate during the incident;

iii. The time at and means by which the incident was identified, e.g., scheduled inspection or observation by operating personnel;

iv. The length of time after the incident was identified that the affected quarry operation(s) continued to operate before minimum accepted control measures were reestablished or the operations

were shutdown (to resume operation only after minimum accepted control measures were reestablished) and, if this time was more than one hour, an explanation why this time was not shorter, including a description of any mitigation measures that were implemented during the incident;

v. The estimated total duration of the incident, i.e., the total length of time that the affected quarry operation(s) operated without minimum accepted control measures and the type(s) and estimated amount of material processed during the incident;

vi. A discussion of the probable cause of the incident; and any preventative measures taken; and

vii. A discussion whether any applicable regulations or the conditions of this permit may have been violated during the incident, with supporting explanation and calculations as needed.

d. The Permittee shall keep a maintenance and repair log for each item of air pollution control equipment, i.e., each dust suppression system, scrubber unit, or filter unit, associated with quarry operations that lists the date and nature of maintenance and repair activities performed on the item of equipment.

e. The Permittee shall maintain records of the following items to demonstrate compliance with Condition 3 of this permit:

i. Tons of disturbed overburden removed, tons/month and ton/year.

ii. Tons of material processed, tons/month and ton/year.

iii. Tons of material screened, tons/month and tons/year.

iv. Tons of material conveyed, tons/month and tons/year.

v. Number of conveyor drop points for material conveyed.

vi. Number of storage pile drop points.

vii. The minimum overall control efficiency of each capture system and control device provides and the corresponding operation that the device is controlling, minimum overall control efficiency and unit(s) controlled.

viii. The minimum overall control efficiency of other methods for controlling emissions (e.g., watering of roadways, use of surfactants, spray bars), used for controlling emissions from the new quarry.

ix. Monthly and annual emission of PM and PM_{10} from each operation in the new quarry, including supporting data and detailed calculations, tons/month and tons/year.

f. i. All records and logs required by this permit shall be retained for at least five years from the date of entry, shall be kept at a location at the source that is readily accessible to the Illinois EPA or USEPA, and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request.

ii. The Permittee shall retrieve and print, on paper during normal source office hours, any records retained in an electronic format (e.g., computer) in response to an Illinois EPA or USEPA request for records during the course of a source inspection.

10. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

It should be noted that this permit is revised to allow the increase in the material throughput of overburden removal, scraper travel, and scraper unloading and to recognize that the quarry produces shale and other minerals, in addition to limestone.

If you have any questions on this, please call Minesh Patel at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

DES:MVP:jar

cc: Region 2

TABLE I

Change in Particulate Matter Emissions

	Project	PM Emissions (Tons/Yr)	PM_{10} Emissions (Tons/Yr)
1.	Potential Emissions from the South Quarry	186	72
2.	Actual emissions from Existing Quarry (average of 1996 and 1997)	276	96
3.	Net Emission Change	- 90	- 24

TABLE II

Emission Increase From South Quarry

Operation	Units per Operation (Units/Year)	Units	PM Emission Factor	PM_{10} Emission Factor	Overall Control Efficiency	PM Emissions (T/Mo)	PM Emissions (T/Yr)	PM_{10} Emissions (T/Mo)	PM_{10} Emissions (T/Yr)
Overburden Removal	2,900,000	Tons	0.016529 lb PM/ton	0.008428 lb PM_{10}/ton	0	3.0	24.0	1.54	12.3
Scraper Travel	2,900,000	Tons	0.219514 lb PM/ton	0.056151 lb PM_{10}/ton	75%	10.0	79.6	2.6	20.3
Scrapper Unloading	2,900,000	Tons	0.040004 lb PM/ton	0.020402 lb PM_{10}/ton	0	7.3	58.0	3.7	29.5
Limestone Drilling	1,162,512	Tons	0.000155 lb PM/ton	0.000086 lb PM_{10}/ton	0	0.01	0.1	0.01	0.1
Limestone Blasting	1,978,368	Tons	0.00004 lb PM/ton	0.00002 lb PM_{10}/ton	0	0.01	0.04	0.01	0.02
Truck Loading	1,162,512	Tons	0.008292 lb PM/ton	0.002907 lb PM_{10}/ton	0	0.6	4.8	0.2	1.7
Truck Transport to Crusher	1,162,512	Tons	0.087122 lb PM/ton	0.03138 lb PM_{10}/ton	75%	1.6	12.7	0.6	4.6
Truck Dumping into Crusher	1,162,512	Tons	0.000034 lb PM/ton	0.000017 lb PM_{10}/ton	50%	0.01	0.01	0.01	0.01
Primary Crushing	1,162,512	Tons	0.0007 lb PM/ton	0.00033 lb PM_{10}/ton	88.20%	0.01	0.1	0.01	0.1
Screening	2,325,024	Tons	0.032 lb PM/ton	0.015 lb PM_{10}/ton	88.20%	0.6	4.4	0.3	2.1
Conveying	12,787,632	Tons	0.0029 lb PM/ton	0.0014 lb PM_{10}/ton	88.20%	0.3	2.2	0.1	1.1
Storage Pile Drops	1,162,512	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	98.00%	0.01	0.1	0.01	0.1
Totals							186.05		71.93

Note: Emissions are based on maximum processing rates, minimum overall control efficiencies and engineering estimated emission factors. These engineering estimated emission factors are based on Standard AP-42 emission factors.

TABLE III

1996 Actual Emissions From Existing Quarry

Operation	Units per Operation (Units/Yr)	Units	PM Emission Factor	PM_{10} Emission Factor	Overall Control Efficiency	PM Emissions (T/Yr)	PM_{10} Emissions (T/Yr)
Overburden Removal	612.21	VMT	20.2 lb PM/VMT	10.3 lb PM_{10}/VMT	0	6.18	3.15
Scraper Travel	34,983.59	VMT	7.824 lb PM/VMT	2.002 lb PM_{10}/VMT	50%	68.43	17.51
Scrapper Unloading	748,089	Tons	0.04 lb PM/ton	0.0204 lb PM_{10}/ton	0	14.96	7.63
Limestone Drilling	971,905	Tons	0.00016 lb PM/ton	0.00008 lb PM_{10}/ton	0	0.08	0.04
Limestone Blasting	1,409,553	Tons	0.00004 lb PM/ton	0.00002 lb PM_{10}/ton	0	0.03	0.01
Truck Loading	971,905	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	0	4.03	1.41
Truck Transport to Crusher	26,507	VMT	20.839 lb PM/ton	7.502 lb PM_{10}/ton	50%	138.09	49.71
Truck Dumping into Crusher	971,905	Tons	0.000034 lb PM/ton	0.000016 lb PM_{10}/ton	50%	0.01	0.00
Primary Crushing	971,905	Tons	0.0007 lb PM/ton	0.00033 lb PM_{10}/ton	90%	0.03	0.02
Screening	2,065,298	Tons	0.032 lb PM/ton	0.015 lb PM_{10}/ton	90%	3.30	1.55
In Quarry Conveying	3,887,620	Tons	0.0029 lb PM/ton	0.0014 lb PM_{10}/ton	90%	0.56	0.27
Out of Quarry Conveying	971,905	Tons	0.0029 lb PM/ton	0.0014 lb PM_{10}/ton	88.20%	0.17	0.08
Storage Pile Drops	1,943,810	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	0%	8.07	2.82

TABLE III (Continued)

1996 Actual Emissions From Existing Quarry

Operation	Units per Operation (Units/Yr)	Units	PM Emission Factor	PM_{10} Emission Factor	Overall Control Efficiency	PM Emissions (T/Yr)	PM_{10} Emissions (T/Yr)
Wind Erosion from Storage Piles	18,500	Tons	0.5163 lb PM/ton	0.2459 lb PM_{10}/ton	0%	4.78	2.27
Loader Dump	971,905	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	30%	2.82	0.99
Loader Travel	3,943	VMT	14.107 lb PM/ton	5.079 lb PM_{10}/ton	50%	13.91	5.01
Totals						265.45	92.47

NOTE: Emissions are based on actual processing rates, minimum overall control efficiencies and standard AP-42 emission factors.

TABLE IV

1997 Actual Emissions From Existing Quarry

Operation	Units per Operation (Units/Yr)	Units	PM Emission Factor	PM_{10} Emission Factor	Overall Control Efficiency	PM Emissions (T/Yr)	PM_{10} Emissions (T/Yr)
Overburden Removal	773.12	VMT	20.2 lb PM/VMT	10.3 lb PM_{10}/VMT	0	7.81	3.98
Scraper Travel	44,178.16	VMT	7.824 lb PM/VMT	2.002 lb PM_{10}/VMT	50%	86.41	22.11
Scrapper Unloading	944,705.7	Tons	0.04 lb PM/ton	0.0204 lb PM_{10}/ton	0	18.89	9.64
Limestone Drilling	958,784	Tons	0.00016 lb PM/ton	0.00008 lb PM_{10}/ton	0	0.08	0.04
Limestone Blasting	2,027,778	Tons	0.00004 lb PM/ton	0.00002 lb PM_{10}/ton	0	0.04	0.02
Truck Loading	958,784	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	0	3.98	1.39
Truck Transport to Crusher	26,148	VMT	20.839 lb PM/ton	7.502 lb PM_{10}/ton	50%	136.22	49.04
Truck Dumping into Crusher	958,784	Tons	0.000011 lb PM/ton	0.000016 lb PM_{10}/ton	50%	0.00	0.00
Primary Crushing	958,784	Tons	0.0007 lb PM/ton	0.00033 lb PM_{10}/ton	90%	0.04	0.02
Screening	2,037,416	Tons	0.032 lb PM/ton	0.015 lb PM_{10}/ton	90%	3.26	1.53
In Quarry Conveying	3,835,136	Tons	0.0029 lb PM/ton	0.0014 lb PM_{10}/ton	90%	0.56	0.27
Out of Quarry Conveying	958,784	Tons	0.0029 lb PM/ton	0.0014 lb PM_{10}/ton	88.20%	0.14	0.07
Storage Pile Drops	1,917,568	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	0%	7.96	2.78

TABLE IV (Continued)

1996 Actual Emissions From Existing Quarry

Operation	Units per Operation (Units/Yr)	Units	PM Emission Factor	PM_{10} Emission Factor	Overall Control Efficiency	PM Emissions (T/Yr)	PM_{10} Emissions (T/Yr)
Wind Erosion from Storage Piles	18,500	Tons	0.5163 lb PM/ton	0.2459 lb PM_{10}/ton	0%	4.78	2.27
Loader Dump	958,784	Tons	0.0083 lb PM/ton	0.0029 lb PM_{10}/ton	30%	2.79	0.97
Loader Travel	3,888	VMT	14.107 lb PM/ton	5.079 lb PM_{10}/ton	50%	13.71	4.94
TOTALS						286.67	99.05

Note: Emissions are based on actual processing rates, minimum overall control efficiencies and standard AP-42 emission factors.