

## Updating the ARB PM2.5 Size Speciation Profiles for Fugitive Dust Sources

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### Overview

A recent study, sponsored by the Western Regional Air Partnership (WRAP), showed that the United States Environmental Protection Agency (EPA) fugitive dust size profiles for the PM2.5 size fraction are most likely overestimated<sup>1,2</sup>. This overestimation appears to be due to biases in the sampling equipment used to generate the original EPA PM2.5 size profiles. The WRAP study provides updated PM2.5 size profiles for key fugitive dust emission sources.

After a review of the WRAP data, and comparing it with the sampling equipment and data used to develop the existing ARB size profiles<sup>3</sup>, it was inconclusive if the ARB profiles might have the same sampling bias as the old EPA profiles. During the ARB sponsored study, different pretreatment of the sampled material was performed to remove the larger particles (> 4 microns) prior to the PM2.5 impactor stage, but impactors were still used to separate and measure mass for the PM2.5 measurements. In addition, the ARB study data measured the PM2.5 fractions at very high concentrations, which could also confound the PM2.5 measurements.

In comparing the ARB emission inventory ratios of PM2.5 to PM10 against the ambient air quality measurement data<sup>4</sup>, it was clear that the ARB PM2.5/PM10 size ratios are substantially higher than the PM2.5 to PM10 ratios observed in ambient air measurements. This provides an indication that most likely the fraction of PM10 that is estimated as PM2.5 for fugitive dust sources is overestimated in the current ARB emissions inventory. Therefore, we are recommending updating California's PM2.5 size speciation profiles to reflect the updated profiles developed through the recent WRAP studies, and to make the profiles better reflect the reality of the measured ambient air quality data.

### Background

Virtually all sources of particulate matter (PM) air pollution are included in California's emission inventory database. Each of these PM emission sources includes a particulate matter size speciation profile. This profile indicates what fraction of the total particulate matter emitted by the source is in the PM10, PM2.5, and PM1 size ranges. PM10 indicates particles that are 10 microns or less in size, and so on for the other size categories.

Fugitive dust sources are one of the classes of particulate matter emissions included in the emissions inventory. These sources emit geologic material, or more simply, dirt or dust. Sources include construction activities, paved and

unpaved road dust, dust producing farming activities, mineral processes such as mining, sand, rock, gravel, and aggregate operations, and windblown dust from anthropogenic and natural sources. In California, each of these sources has a specific particulate matter size profile associated with it, which are primarily based on a study performed in 1989<sup>3</sup>, funded by the California Air Resources Board (ARB). The profiles are often used to estimate emissions for various PM size categories when specific field-test measurements are not available. For example, if PM<sub>10</sub> was measured in the field for paved road dust, the ratio of PM<sub>10</sub> to PM<sub>2.5</sub> from other road or laboratory testing can be used to estimate the PM<sub>2.5</sub> emissions.

Data analyzed over the past several years shows differences between the concentrations of geologically-based PM<sub>2.5</sub> measured in ambient air versus the PM<sub>2.5</sub> concentrations predicted using calculated emission inventory data and atmospheric modeling. In general, the emission inventory values for PM<sub>2.5</sub> geologic material appear to be too large, based on what is actually observed on the PM<sub>2.5</sub> ambient air quality sampling filters. It was hypothesized that the overstated emission estimates were due to biases in the PM<sub>2.5</sub> measurement devices used to develop the PM<sub>2.5</sub> emission factors for geologic dust categories such as paved road dust, unpaved road dust, construction dust, and agricultural dust<sup>5</sup>.

To better understand the source of the inconsistencies between the measured ambient air and the emissions inventory data, the Western Regional Air Partnership (WRAP) sponsored a laboratory study to explore the potential biases in the equipment used to estimate PM<sub>2.5</sub> emission factors. Based on 100 tests using 10 different soils, the study indicates that the original equipment used for the PM<sub>2.5</sub> emission measurements lead to inflated PM<sub>2.5</sub> geologic dust concentrations<sup>1</sup>. Based on this data, the report recommends reducing the PM<sub>2.5</sub>/PM<sub>10</sub> ratio by about 50%<sup>2</sup>.

WRAP is currently using the updated PM<sub>2.5</sub> size fractions in their fugitive dust emission estimates for the Western United States. The South Coast Air Quality Management District has incorporated the updated size fractions into the emission estimates they are using for their current State Implementation Plan.

The EPA is working to revise the emission estimation methods in AP-42 that are affected by the improved size data. These methods include paved road dust, unpaved road dust, construction dust, and aggregate handling. EPA has released draft versions of the updated methods that incorporate the new PM<sub>2.5</sub> size fraction data. The changes are shown here: <http://www.epa.gov/ttn/chief/ap42/ch13/index.html>. Assuming no substantial negative comments are received, EPA will finalize the methods over the next year to incorporate the new PM<sub>2.5</sub> size profiles.

## Available Studies and Discussion

As mentioned previously, a study was funded by WRAP to evaluate discrepancies observed between the measured ratios of ambient PM<sub>2.5</sub>/PM<sub>10</sub> to the ratios computed using emission inventory data. The WRAP studies<sup>1,2</sup> clearly showed that the original samplers used to generate EPA's PM<sub>2.5</sub> emission estimates for many fugitive dust sources overestimated the PM<sub>2.5</sub> emissions. It appears that the earlier sampling had particle bounce or other issues which lead to the PM<sub>2.5</sub> overestimates. During the WRAP project, sampling was performed on agricultural and other soils from western states. The two California soil samples tested were from the Owens lakebed and the Salton Sea lakebed.

The Air Resources Board uses different PM<sub>2.5</sub> size profiles than the EPA, which were based on an ARB sponsored study published by OMNI Environmental in 1989<sup>3</sup>. All of the testing performed in the study was performed using soils, road dusts, and other geologic material collected in California. After an analysis of the OMNI study and its methods, we could not definitively ascertain that the ARB PM<sub>2.5</sub> data have the same biases as the EPA data.

In an attempt to validate the ARB size profiles, we compared the current OMNI laboratory derived PM<sub>2.5</sub>/PM<sub>10</sub> profile ratios with available ambient air quality data ratios of PM<sub>2.5</sub>/PM<sub>10</sub> in the San Joaquin Valley. For this analysis, the ambient data are assumed to be closer to the reality. Therefore, if the inventory size profiles are correct, the ratios of PM<sub>2.5</sub>/PM<sub>10</sub> should be similar for both the inventory and ambient data. This was found to be untrue.

Table 1 below shows that San Joaquin Valley ambient air quality<sup>6</sup> data for geologic dust has PM<sub>2.5</sub>/PM<sub>10</sub> ratios that range from 0.06 to 0.10, with individual observations as high as 1.1 (not possible in reality), and as low as 0.00. The overall average PM<sub>2.5</sub>/PM<sub>10</sub> ratio of all ambient air data points is 0.07. The current ARB PM<sub>2.5</sub>/PM<sub>10</sub> profile emissions ratios range from 0.11 to 0.29 (Table 2), with an overall average of 0.21. This differs substantially from the ambient air average of 0.07. The proposed updated WRAP ratios are either 0.1 or 0.15, and are shown in Table 2, which follows.

To further investigate the PM<sub>2.5</sub>/PM<sub>10</sub> ratios, the monthly PM<sub>2.5</sub> and PM<sub>10</sub> concentration values for the San Joaquin Valley were evaluated<sup>6</sup>. The average PM<sub>2.5</sub> fugitive dust concentrations for the period of 12/1/99 to 2/18/01 ranged from 0.4 ug/m<sup>3</sup> to 1.8 ug/m<sup>3</sup> and the average concentration was 1 ug/m<sup>3</sup>. The monthly average PM<sub>10</sub> fugitive dust concentration ranged from 6 ug/m<sup>3</sup> to 30.6 ug/m<sup>3</sup> and the average was 17 ug/m<sup>3</sup>. The monthly ratio ranged from 0.04 to 0.1 and the average ratio was 0.07. Figure 1 illustrates monthly average concentrations of fugitive dust material in the San Joaquin Valley for PM<sub>10</sub> and PM<sub>2.5</sub> during 1999.

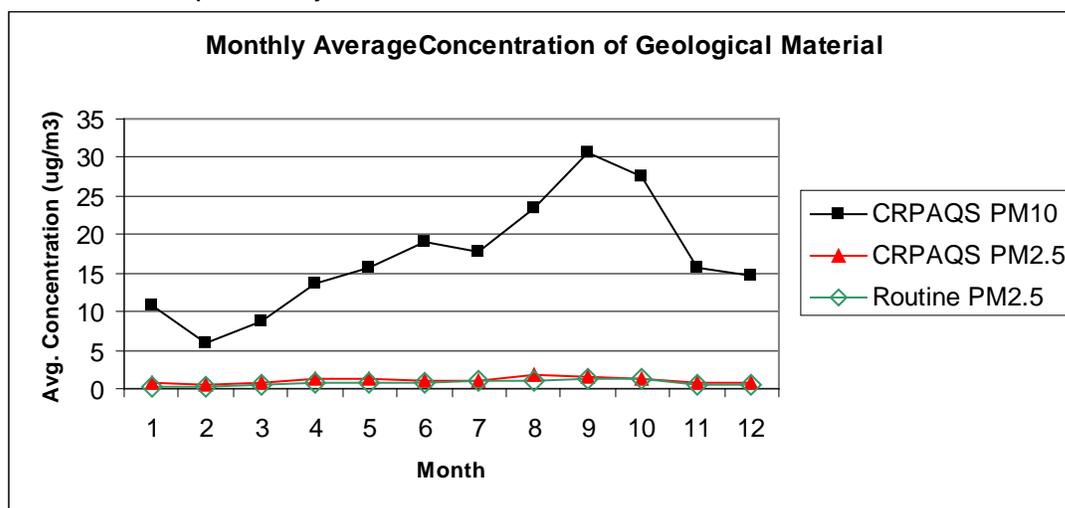
Based on these ambient data sets, we have concluded that adjusting the emission inventory PM<sub>2.5</sub>/PM<sub>10</sub> ratios will produce a more realistic inventory that

more accurately reflects the particulate matter observed in the air. This change will assist in improving ambient air quality model performance and developing the best possible PM10 and PM2.5 control strategies.

Table 1. PM2.5/PM10 Fugitive Dust Ratios Using San Joaquin Valley Ambient Air Quality Data

Measurement Site	Site ID	Number of Observations	Ratio PM2.5/PM10 fugitive dust			
			Average	Std Dev	Min	Max
Corcoran-Patterson	COP	23	0.07	0.07	0.01	0.26
Fresno-1st Street	FSF	104	0.09	0.09	0.03	0.76
Modesto-14th Street	M14	60	0.06	0.06	0.01	0.33
Stockton-Hazelton Street	SOH	58	0.07	0.14	0.01	1.11
Visalia-N Church Street	VCS	14	0.05	0.06	0.00	0.23
Sacramento-T Street	S13	58	0.10	0.18	0.00	1.00

Figure 1. Monthly average concentration of fugitive dust material in the San Joaquin Valley



**Affected Categories**

Sources affected by the change in the PM2.5 size profile include construction activities, paved and unpaved road dust, dust producing farming activities, mineral processes such as mining, sand, rock, gravel, landfill dust, and aggregate operations, and windblown dust from anthropogenic and natural sources. Appendix 1 provides a comprehensive list of the affected particulate matter source profiles. These profiles are assigned to individual source categories in the CEIDARS database through a lookup tables that associate PM species profiles with source-specific Emission Inventory Codes (EICs). The individually affected EIC source categories are listed in Appendix 2. About 250 categories are potentially affected by the change.

## Recommended Changes and Effects

Table 2 shows the current ARB PM<sub>2.5</sub>/PM<sub>10</sub> size ratios<sup>6</sup> and the ratios developed in the WRAP study<sup>1,2</sup>, displaying the difference between the two data sets. Also shown are the current ARB PM<sub>2.5</sub> size profile fractions, which are the fraction of total PM that is considered PM<sub>2.5</sub>, as well as the proposed revision to the fractions, and the approximate percent reduction in the PM<sub>2.5</sub> emission estimates resulting from the profile change. Note that this change does not produce a reduction in overall particulate matter (PM) emission estimates; it merely assigns more of the geologic particulate matter to the size fraction between PM<sub>10</sub> and PM<sub>2.5</sub>, and reduces the amount of PM assigned to the PM<sub>2.5</sub> size fraction.

Table 2. PM<sub>2.5</sub>/PM<sub>10</sub> Size Ratios and Recommended PM<sub>2.5</sub> Size Profile Revisions

Source Category	Particulate Size Ratios PM <sub>2.5</sub> /PM <sub>10</sub>		PM <sub>2.5</sub> Size Profile (fraction of total PM)	
	Current ARB	Proposed Change	Current PM <sub>2.5</sub> Profile	Proposed PM <sub>2.5</sub> Profile (% reduction)
Paved Roads	0.169	0.15	0.0772	0.0686 (11%)
Unpaved Roads (Public & Industrial)	0.212	0.1	0.1260	0.0594 (52%)
Construction & Demolition	0.208	0.1	0.1020	0.0489 (53%)
Aggregate Handling & Storage Piles*	0.292	0.15	0.1460	0.0750 (49%)
Industrial Wind Erosion**	0.216	0.15	0.1134	0.0768 (31%)
Open Area Wind Erosion** (from Ag lands, unpaved roads, etc.)	0.216	0.15	0.1134	0.0768 (31%)
Agricultural Tilling***	0.222	0.15	0.1007	0.0681 (32%)
Landfill Dust***	0.208	NA	0.1017	0.0734 (28%)
Livestock Dust	0.114	NA	0.055	0.055 (0%)

### Table 1 Notes

- \* The ARB profile for this category is based on the rock and mineral processing source category (profiles #371, 374). The updated profile will be applied to all rock and mineral processing operations.
- \*\* The ARB profile shown is based on average of the unpaved area and agricultural lands windblown profiles (#416, 418).
- \*\*\* The profiles for agricultural tilling and landfill dust were updated similarly to the other categories. The WRAP reports do not provide specific updates for these categories. Livestock dust was not updated because the current ARB PM<sub>2.5</sub> fraction is already in the range of the updated size fractions.

In making revisions to the ARB fractions, we propose updating the PM2.5 size ratio for all fugitive dust categories. For example, the WRAP report did not update the PM2.5 size profile for agricultural dust, and instead recommended using the current ARB PM2.5 size profile for agricultural dust. Our recommendation is to update the agricultural dust PM2.5 profile because it is likely to have the same sampling biases as the other source categories, and to ensure consistency and equity between the fugitive dust sources. In talking with EPA and the contractor who performed the WRAP study, we agreed that it is justifiable to update the agriculture and landfill profiles using the new WRAP data<sup>7</sup>.

Updates were also made to the landfill dust emissions, which would be similar to paved road dust, construction, or wind erosion. The ARB PM2.5 profile for livestock was not updated because it is already within the ratios computed in the WRAP study.

Using baseline data from the ARB's 2004 on-line emission inventory<sup>8</sup>, updating the PM2.5 fugitive dust size profiles will reduce the overall PM2.5 emission estimates for California from about 780 tons/day to approximately 651 tons/day, about a 17% reduction or 129 tons/day. Considering only the fugitive dust emissions categories, the PM2.5 emissions estimates change from about 356 to 227 tons/day, a 36% reduction in the PM2.5 fugitive dust estimate. Note that this change does not reduce the overall PM10 emissions (which PM2.5 is a subset of), it only apportions more of the fine particulate (<2.5 microns) into the coarse particulate category (> 2.5 microns). Table 3 shows estimates of the revised emissions for specific source categories.

Table 3. Statewide Reduction in PM2.5 Estimates with Revised PM2.5 Profiles

Category	Baseline Emissions		Approximate Adjusted Emissions			Contribution to Total PM2.5 Reduction
	2004 PM10 Emissions (tons/day)	2004 PM2.5 Emissions (tons/day)	Updated PM2.5 Emissions (tons/day)	PM2.5 Reduction (tons/day)	PM2.5 Reduction Percentage	
Landfills	0.3	0.3	0.2	0.1	28%	0.1%
Mineral Processes	45	21	11	10	49%	8%
Farming Operations	183	46	31	15	32%	11%
Construction	200	41	20	21	52%	17%
Paved Road Dust	406	80	71	9	11%	7%
Unpaved Road Dust	473	99	47	52	53%	41%
Fugitive Windblown Dust	312	68	47	21	31%	16%
Totals for Listed Categories	1619	356	227	129	36%	100%

**Process for Making Profile Changes**

We are recommending updating the PM<sub>2.5</sub> size fractions to make the emission inventory more consistent with ambient air quality data measurements for fugitive dust. These changes are also supported by the results of a recent WRAP laboratory study of PM<sub>2.5</sub>/PM<sub>10</sub> ratios for fugitive dust.

From a technical perspective, the PM<sub>2.5</sub> profile change can easily be implemented by updating internal ARB database tables and propagating the changes through the CEIDARS database and CEFS forecasting system. Prior to changes, we will present the proposed revisions to the local air districts through the Emission Inventory Technical Advisory Committee (EITAC), to get their feedback and comments. Following review and approval, the necessary updates can be made to the statewide database. It will also be important that users of the data, such as the ARB's atmospheric modeling group, are informed of the changes so their data sets can be appropriately updated.

## References

- <sup>1</sup> Cowherd, C., *Analysis of the Fine Fraction of Particulate matter in Fugitive Dust, Final Report*. October 12, 2005. Midwest Research Institute. MRI Project No. 110397.  
[http://www.wrapair.org/forums/dejf/documents/fffd/Final\\_Fine\\_Fraction\\_Dust\\_Report.pdf](http://www.wrapair.org/forums/dejf/documents/fffd/Final_Fine_Fraction_Dust_Report.pdf)
- <sup>2</sup> Cowherd, C., *Proposed Revisions to Fine Fraction Ratios Used for AP-42 Fugitive Dust Emission Factors*. November 7, 2005. Midwest Research Institute. MRI Project No. 110397
- <sup>3</sup> Houck, J., *Determination of Particle Size Distribution and Chemical Composition of Particulate Matter from Selected Sources in California*, OMNI Environmental Services, 1989.  
<http://www.arb.ca.gov/app/library/libcc.php> (search on Author = Houck)
- <sup>4</sup> Turkiewicz, K., California Air Resources Board. Informal Analysis of San Joaquin Valley and South Coast air monitoring data. May 2006.
- <sup>5</sup> Pace, T., *Examination of the Multiplier Used to Estimate PM2.5 Fugitive Dust Emissions from PM10*. U.S. EPA, April, 2004.  
<http://www.epa.gov/ttn/chief/conference/ei14/index.html#ses-5>
- <sup>6</sup> California Air Resources Board. Particulate Matter Size Profiles. May 6, 2002.  
<http://www.arb.ca.gov/ei/speciate/speciate.htm> (PMSIZE spreadsheet)
- <sup>7</sup> Personal communication, July 6, 2006. Patrick Gaffney (ARB), Chat Cowherd (MRI), Tom Pace (EPA), Richard Countess (Countess Environmental).
- <sup>8</sup> California Resources Board. Almanac Emission Projection Data (published in 2005). 2004 Estimated Annual Average Emissions: Statewide  
<http://www.arb.ca.gov/ei/emissiondata.htm>

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## Appendix 1

## PM2.5 Profiles for Update

The table below shows the particulate matter profiles requiring update and the revised PM2.5 fractions.

Profile ID#	Category	Revised PM2.5 Fraction
371	Mineral Process Loss	0.0750
373	Rock Crushers	0.0750
374	Rock Screening & Handling	0.0750
416	Fugitive Windblown Dust - Unpaved Road	0.0786
418	Fugitive Windblown Dust - Ag Lands	0.0786
417	Agricultural Tilling Dust	0.0681
421	Landfill Dust	0.0734
471	Paved Road Dust	0.0686
470	Unpaved Road Dust	0.0594
420	Construction Dust	0.0489

## Appendix 2

### Categories Affected by Update to PM2.5 Size Fractions

The table below shows the individual source categories affected by the adjustment to the particulate matter source profiles.

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
371	MINERAL PROCESS LOSS	46987	MINERAL PROCESSES	OTHER	MISCELLANEOUS	
371	MINERAL PROCESS LOSS	46995	MINERAL PROCESSES	EXCAVATION & PROCES	SAND AND GRAVEL	
371	MINERAL PROCESS LOSS	47019	MINERAL PROCESSES	GRINDING/CRUSHING	AGGREGATES	
371	MINERAL PROCESS LOSS	47027	MINERAL PROCESSES	SURFACE BLASTING	SURFACE BLASTING	
371	MINERAL PROCESS LOSS	30500304	MINERAL PRODUCTS	BRICK MFG	CURING	GAS FIRED **
371	MINERAL PROCESS LOSS	30500309	MINERAL PRODUCTS	BRICK MFG	PROCESS BLEND/MIX	
371	MINERAL PROCESS LOSS	30500311	MINERAL PRODUCTS	BRICK MFG	TUNNEL KILNS	GAS-FIRED
371	MINERAL PROCESS LOSS	30500312	MINERAL PRODUCTS	BRICK MFG	TUNNEL KILNS	OIL-FIRED
371	MINERAL PROCESS LOSS	30500314	MINERAL PRODUCTS	BRICK MFG	PERIODIC KILNS	GAS-FIRED
371	MINERAL PROCESS LOSS	30500398	MINERAL PRODUCTS	BRICK MFG	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30500399	MINERAL PRODUCTS	BRICK MFG	NOT CLASSIFIED	SEE COMMENT **
371	MINERAL PROCESS LOSS	30500405	MINERAL PRODUCTS	CALCIUM CARBIDE	CRUSHING	PRIMARY & SECONDY
371	MINERAL PROCESS LOSS	30500501	MINERAL PRODUCTS	CASTABLE REFRACTY	RAW MATERIAL	DRYER
371	MINERAL PROCESS LOSS	30500502	MINERAL PRODUCTS	CASTABLE REFRACTY	RAW MATERIAL	CRUSH/PROCESS
371	MINERAL PROCESS LOSS	30500504	MINERAL PRODUCTS	CASTABLE REFRACTY	CURING OVEN	
371	MINERAL PROCESS LOSS	30500599	MINERAL PRODUCTS	CASTABLE REFRACTY	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30500613	MINERAL PRODUCTS	CEMENT MFG	DRY PROCESS	RAW MAT GRIND/DRY
371	MINERAL PROCESS LOSS	30500708	MINERAL PRODUCTS	CEMENT MFG	WET PROCESS	RAW MAT PILES
371	MINERAL PROCESS LOSS	30501001	MINING OPERATIONS	COAL CLEANING	THERMAL DRYER	FLUIDIZED BED
371	MINERAL PROCESS LOSS	30501004	MINING OPERATIONS	COAL CLEANING	THERMAL DRYER	ROTARY
371	MINERAL PROCESS LOSS	30501008	MINING OPERATIONS	COAL CLEANING	MATERIAL HANDLING	UNLOADING
371	MINERAL PROCESS LOSS	30501010	MINING OPERATIONS	COAL CLEANING	MATERIAL HANDLING	CRUSHING
371	MINERAL PROCESS LOSS	30501011	MINING OPERATIONS	COAL CLEANING	MATERIAL HANDLING	COAL TRANSFER

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
371	MINERAL PROCESS LOSS	30501015	MINING OPERATIONS	COAL CLEANING	MATERIAL HANDLING	LOADING
371	MINERAL PROCESS LOSS	30501023	MINING OPERATIONS	SURFACE COAL MINE	GENERAL	LOADING
371	MINERAL PROCESS LOSS	30501031	MINING OPERATIONS	SURFACE COAL MINE	SCRAPERS	TRAVEL MODE
371	MINERAL PROCESS LOSS	30501040	MINING OPERATIONS	SURFACE COAL MINE	DUMP TRUCK UNLOAD	END DUMP-COAL
371	MINERAL PROCESS LOSS	30501041	MINING OPERATIONS	SURFACE COAL MINE	DUMP TRUCK UNLOAD	BOTTOM DUMP-COAL BOTM DUMP- OVRBRDN
371	MINERAL PROCESS LOSS	30501042	MINING OPERATIONS	SURFACE COAL MINE	DUMP TRUCK UNLOAD	
371	MINERAL PROCESS LOSS	30501043	MINING OPERATIONS	SURFACE COAL MINE	OPEN STORAGE PILE	COAL
371	MINERAL PROCESS LOSS	30501090	MINING OPERATIONS	SURFACE COAL MINE	HAUL ROAD	GENERAL
371	MINERAL PROCESS LOSS	30501099	MINING OPERATIONS	SURFACE COAL MINE	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30501212	MINERAL PRODUCTS	FIBERGLASS	TEXTILE-TYPE FIBR	RECUPERATIVE FURN
371	MINERAL PROCESS LOSS	30501214	MINERAL PRODUCTS	FIBERGLASS	TEXTILE-TYPE FIBR	FORMING PROCESS
371	MINERAL PROCESS LOSS	30501215	MINERAL PRODUCTS	FIBERGLASS	TEXTILE-TYPE FIBR	CURING OVEN PRCSS
371	MINERAL PROCESS LOSS	30501221	MINERAL PRODUCTS	FIBERGLASS	RAW MATL HANDLING	UNLOAD/CONVEYING
371	MINERAL PROCESS LOSS	30501222	MINERAL PRODUCTS	FIBERGLASS	RAW MATL HANDLING	STORAGE BINS
371	MINERAL PROCESS LOSS	30501223	MINERAL PRODUCTS	FIBERGLASS	RAW MATL HANDLING	MIXING/WEIGHING
371	MINERAL PROCESS LOSS	30501299	MINERAL PRODUCTS	FIBERGLASS	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30501301	MINERAL PRODUCTS	FRIT MFG	ROTARY FURNACE	GENERAL
371	MINERAL PROCESS LOSS	30501399	MINERAL PRODUCTS	FRIT MFG	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30501406	MINERAL PRODUCTS	GLASS MFG	CONTAINER GLASS	FORMING/FINISHING
371	MINERAL PROCESS LOSS	30501407	MINERAL PRODUCTS	GLASS MFG	FLAT GLASS	FORMING/FINISHING
371	MINERAL PROCESS LOSS	30501408	MINERAL PRODUCTS	GLASS MFG	PRESS/BLOWN GLASS	FORMING/FINISHING
371	MINERAL PROCESS LOSS	30501410	MINERAL PRODUCTS	GLASS MFG	RAW MATL HANDLING	GENERAL
371	MINERAL PROCESS LOSS	30501411	MINERAL PRODUCTS	GLASS MFG	BATCHING/MIXING	GENERAL **
371	MINERAL PROCESS LOSS	30501412	MINERAL PRODUCTS	GLASS MFG	MOLTEN GLASS	HOLD TANKS **
371	MINERAL PROCESS LOSS	30501413	MINERAL PRODUCTS	GLASS MFG	GROUND CULLET	CRUSHER/GRINDER
371	MINERAL PROCESS LOSS	30501415	MINERAL PRODUCTS	GLASS MFG	GLASS ETCHING	W/ HF ACID SOLUTN
371	MINERAL PROCESS LOSS	30501499	MINERAL PRODUCTS	GLASS MFG	NOT CLASSIFIED	SEE COMMENT **
371	MINERAL PROCESS LOSS	30501701	MINERAL PRODUCTS	MINERAL WOOL	CUPOLA	
371	MINERAL PROCESS LOSS	30501703	MINERAL PRODUCTS	MINERAL WOOL	BLOW CHAMBER	
371	MINERAL PROCESS LOSS	30501704	MINERAL PRODUCTS	MINERAL WOOL	CURING OVEN	
371	MINERAL PROCESS LOSS	30501705	MINERAL PRODUCTS	MINERAL WOOL	COOLER	

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
371	MINERAL PROCESS LOSS	30501708	MINERAL PRODUCTS	MINERAL WOOL	PACKAGING OPERATIONS	
371	MINERAL PROCESS LOSS	30501799	MINERAL PRODUCTS	MINERAL WOOL	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30501801	MINERAL PRODUCTS	PERLITE MFG	VERTICAL FURNACE	GENERAL
371	MINERAL PROCESS LOSS	30501899	MINERAL PRODUCTS	PERLITE MFG	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30501902	MINING OPERATIONS	NONMETALLIC MINRL	PHOSPHATE ROCK	GRINDING
371	MINERAL PROCESS LOSS	30501903	MINING OPERATIONS	NONMETALLIC MINRL	PHOSPHATE ROCK	TRANSFER/STORAGE
371	MINERAL PROCESS LOSS	30501999	MINING OPERATIONS	NONMETALLIC MINRL	PHOSPHATE ROCK	NOT CLASSIFIED
371	MINERAL PROCESS LOSS	30502007	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	OPEN STORAGE
371	MINERAL PROCESS LOSS	30502008	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	CUT STONE-GENERAL
371	MINERAL PROCESS LOSS	30502009	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	BLASTING-GENERAL
371	MINERAL PROCESS LOSS	30502010	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	DRILLING
371	MINERAL PROCESS LOSS	30502011	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	HAULING
371	MINERAL PROCESS LOSS	30502012	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	DRYING
371	MINERAL PROCESS LOSS	30502013	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	BAR GRIZZLIES
371	MINERAL PROCESS LOSS	30502020	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	DRILLING
371	MINERAL PROCESS LOSS	30502099	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	NOT CLASSIFIED **
371	MINERAL PROCESS LOSS	30502101	MINING OPERATIONS	NONMETALLIC MINRL	SALT MINING	GENERAL
371	MINERAL PROCESS LOSS	30502201	MINING OPERATIONS	NONMETALLIC MINRL	POTASH PRODUCTION	MINE-GRIND/DRY
371	MINERAL PROCESS LOSS	30502299	MINING OPERATIONS	NONMETALLIC MINRL	POTASH PRODUCTION	NOT CLASSIFIED
371	MINERAL PROCESS LOSS	30502399	DUMMY NAME 10-30-81	INDUSTRIAL PROCES-MI	CALCIUM BORATE	OTHER/NOT CLASIFD AGGREGATE STORAGE
371	MINERAL PROCESS LOSS	30502502	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	TRANSFER STATION
371	MINERAL PROCESS LOSS	30502503	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	HAULING PILE FORMING- STACKER
371	MINERAL PROCESS LOSS	30502504	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	BULK LOADING
371	MINERAL PROCESS LOSS	30502505	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	STORAGE PILES
371	MINERAL PROCESS LOSS	30502506	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	DRYER
371	MINERAL PROCESS LOSS	30502507	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	COOLER
371	MINERAL PROCESS LOSS	30502508	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	CRUSHING
371	MINERAL PROCESS LOSS	30502509	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	SCREENING
371	MINERAL PROCESS LOSS	30502510	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	HANDLING
371	MINERAL PROCESS LOSS	30502511	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	
371	MINERAL PROCESS LOSS	30502601	MINING OPERATIONS	NONMETALLIC MINRL	DIATOMACOUS EARTH	

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
371	MINERAL PROCESS LOSS	30502699	MINING OPERATIONS	NONMETALLIC MINRL	DIATOMACOUS EARTH	NOT CLASSIFIED TRANSFER & STORAGE
371	MINERAL PROCESS LOSS	30502760	MINING OPERATIONS	NONMETALLIC MINRL	SAND HANDLING	
371	MINERAL PROCESS LOSS	30503099	MINERAL PRODUCTS	CERAMIC ELEC PRTS	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30503101	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MINING	SURFACE BLASTING
371	MINERAL PROCESS LOSS	30503111	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MINING	TAILING PILES
371	MINERAL PROCESS LOSS	30503201	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MILLING	CRUSHING
371	MINERAL PROCESS LOSS	30503202	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MILLING	DRYING
371	MINERAL PROCESS LOSS	30503203	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MILLING	RECRUSHING
371	MINERAL PROCESS LOSS	30503205	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MILLING	FIBERIZING
371	MINERAL PROCESS LOSS	30503299	MINING OPERATIONS	NONMETALLIC MINRL	ASBESTOS MILLING	NOT CLASSIFIED
371	MINERAL PROCESS LOSS	30504001	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	OPEN PIT BLASTING
371	MINERAL PROCESS LOSS	30504003	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	OPEN PIT COBBING
371	MINERAL PROCESS LOSS	30504020	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	LOADING
371	MINERAL PROCESS LOSS	30504021	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	CONVEY/HAUL MATL
371	MINERAL PROCESS LOSS	30504022	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	CONVEY/HAUL WASTE
371	MINERAL PROCESS LOSS	30504023	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	UNLOADING
371	MINERAL PROCESS LOSS	30504024	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	STRIPPING
371	MINERAL PROCESS LOSS	30504025	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	STOCKPILE
371	MINERAL PROCESS LOSS	30504030	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	PRIMARY CRUSHER SECONDARY CRUSHER
371	MINERAL PROCESS LOSS	30504031	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	ORE CONCENTRATOR
371	MINERAL PROCESS LOSS	30504032	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	ORE DRYER
371	MINERAL PROCESS LOSS	30504033	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	SCREENING
371	MINERAL PROCESS LOSS	30504034	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	NOT CLASSIFIED
371	MINERAL PROCESS LOSS	30504099	MINING OPERATIONS	UNSPECIFIED ORE	SEE COMMENT	
371	MINERAL PROCESS LOSS	30509202	MINERAL PRODUCTS	NONMETALLIC MINRL	MIXING & BLENDING	
371	MINERAL PROCESS LOSS	30510001	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	UNLOADING
371	MINERAL PROCESS LOSS	30510002	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	LOADING
371	MINERAL PROCESS LOSS	30510003	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	REMOVAL FROM BINS
371	MINERAL PROCESS LOSS	30510004	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	DRYING
371	MINERAL PROCESS LOSS	30510005	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	CLEANING
371	MINERAL PROCESS LOSS	30510006	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	HEADHOUSE(LEGS)
371	MINERAL PROCESS LOSS	30510007	MINERAL PRODUCTS	BULK MATERIALS	ELEVATORS	TRIPPER

<b>PMPROF</b>	<b>Profile</b>	<b>SCC</b>	<b>NAME1</b>	<b>NAME2</b>	<b>NAME3</b>	<b>NAME4</b>
371	MINERAL PROCESS LOSS	30510103	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	COAL
371	MINERAL PROCESS LOSS	30510104	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	COKE
371	MINERAL PROCESS LOSS	30510105	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	LIMESTONE
371	MINERAL PROCESS LOSS	30510196	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	CHEMICAL,OTHER
371	MINERAL PROCESS LOSS	30510197	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	FERTILIZER,OTHER
371	MINERAL PROCESS LOSS	30510198	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	MINERAL,OTHER
371	MINERAL PROCESS LOSS	30510199	MINERAL PRODUCTS	BULK MATERIALS	CONVEYORS	MISC/NOT CLASSIFD
371	MINERAL PROCESS LOSS	30510203	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	COAL
371	MINERAL PROCESS LOSS	30510204	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	COKE
371	MINERAL PROCESS LOSS	30510205	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	LIMESTONE
371	MINERAL PROCESS LOSS	30510296	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	CHEMICAL,OTHER
371	MINERAL PROCESS LOSS	30510297	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	FERTILIZER,OTHER
371	MINERAL PROCESS LOSS	30510298	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	MINERAL,OTHER
371	MINERAL PROCESS LOSS	30510299	MINERAL PRODUCTS	BULK MATERIALS	STORAGE BINS	MISC/NOT CLASSIFD
371	MINERAL PROCESS LOSS	30510303	MINERAL PRODUCTS	BULK MATERIALS	OPEN STOCKPILES	COAL
371	MINERAL PROCESS LOSS	30510304	MINERAL PRODUCTS	BULK MATERIALS	OPEN STOCKPILES	COKE
371	MINERAL PROCESS LOSS	30510397	MINERAL PRODUCTS	BULK MATERIALS	OPEN STOCKPILES	FERTILIZER,OTHER
371	MINERAL PROCESS LOSS	30510398	MINERAL PRODUCTS	BULK MATERIALS	OPEN STOCKPILES	MINERAL,OTHER
371	MINERAL PROCESS LOSS	30510399	MINERAL PRODUCTS	BULK MATERIALS	OPEN STOCKPILES	MISC/NOT CLASSIFD
371	MINERAL PROCESS LOSS	30510403	MINERAL PRODUCTS	BULK MATERIALS	UNLOADING OPERATN	COAL
371	MINERAL PROCESS LOSS	30510404	MINERAL PRODUCTS	BULK MATERIALS	UNLOADING OPERATN	COKE
371	MINERAL PROCESS LOSS	30510405	MINERAL PRODUCTS	BULK MATERIALS	UNLOADING OPERATN	LIMESTONE
371	MINERAL PROCESS LOSS	30510496	MINERAL PRODUCTS	BULK MATERIALS	UNLOADING OPERATN	CHEMICAL,OTHER
371	MINERAL PROCESS LOSS	30510498	MINERAL PRODUCTS	BULK MATERIALS	UNLOADING OPERATN	MINERAL,OTHER
371	MINERAL PROCESS LOSS	30510499	MINERAL PRODUCTS	BULK MATERIALS	UNLOADING OPERATN	MISC/NOT CLASSIFD
371	MINERAL PROCESS LOSS	30510503	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	COAL
371	MINERAL PROCESS LOSS	30510504	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	COKE
371	MINERAL PROCESS LOSS	30510505	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	LIMESTONE
371	MINERAL PROCESS LOSS	30510596	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	CHEMICAL,OTHER
371	MINERAL PROCESS LOSS	30510597	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	FERTILIZER,OTHER
371	MINERAL PROCESS LOSS	30510598	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	MINERAL,OTHER
371	MINERAL PROCESS LOSS	30510599	MINERAL PRODUCTS	BULK MATERIALS	LOADING OPERATION	MISC/NOT CLASSIFD

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
371	MINERAL PROCESS LOSS	30510708	MINERAL PRODUCTS	BULK MATERIALS	SULFUR	
371	MINERAL PROCESS LOSS	30515001	MINERAL PRODUCTS	NONMETALLIC MINRL	CALCINING-GENERAL	RAW MATRL HANDLNG
371	MINERAL PROCESS LOSS	30588801	MINERAL PRODUCTS	FUGITIVE EMISSION	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30588802	MINERAL PRODUCTS	FUGITIVE EMISSION	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30588803	MINERAL PRODUCTS	FUGITIVE EMISSION	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30588804	MINERAL PRODUCTS	FUGITIVE EMISSION	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	30599999	MINERAL PRODUCTS	MISCELLANEOUS	NOT CLASSIFIED	OTHER
371	MINERAL PROCESS LOSS	43042270780000	MINERAL PROCESSES	SAND AND GRAVEL EXCAVATION AND PROCESSING	SAND/AGGREGATE	SUB-CATEGORY UNSPECIFIED
371	MINERAL PROCESS LOSS	43042670780000	MINERAL PROCESSES	CRUSHED STONE EXCAVATION AND PROCESSING (AGGREGATE PROD.)	SAND/AGGREGATE	SUB-CATEGORY UNSPECIFIED
371	MINERAL PROCESS LOSS	43042870000000	MINERAL PROCESSES	SURFACE BLASTING	MINERAL AND METAL PRODUCTS (UNSPECIFIED)	SUB-CATEGORY UNSPECIFIED
371	MINERAL PROCESS LOSS	43099570000000	MINERAL PROCESSES	OTHER	MINERAL AND METAL PRODUCTS (UNSPECIFIED)	SUB-CATEGORY UNSPECIFIED
373	ROCK CRUSHERS	30502001	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	PRIMARY CRUSHING
373	ROCK CRUSHERS	30502002	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	SECONDRY CRUSHING
373	ROCK CRUSHERS	30502003	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	TERTIARY CRUSHING
373	ROCK CRUSHERS	30502004	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	RECRUSH/SCREENING
373	ROCK CRUSHERS	30502005	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	FINES MILL
373	ROCK CRUSHERS	30502501	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	TOTAL PLNT-GENL**
373	ROCK SCREENING & HANDLING	30502599	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	NOT CLASSIFIED **
374	ROCK SCREENING & HANDLING	30502006	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	SCREEN/CONVEY
374	ROCK SCREENING & HANDLING	30502014	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	SHAKER SCREENS
374	ROCK SCREENING & HANDLING	30502015	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	VIBRATING SCREENS
374	ROCK SCREENING & HANDLING	30502016	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	REVOLVING SCREENS
374	ROCK SCREENING & HANDLING	30502512	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	OVERBURDEN REMOVAL
374	ROCK SCREENING & HANDLING	30502523	MINING OPERATIONS	NONMETALLIC MINRL	FINE SCREENING	CONSTRUCTION SAND

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
416	WINDBLOWN DUST-UNPAVED RD/AREA	83352	FUGITIVE DUST	WINDBLOWN DUST	DUST-UNPAVED AREAS	
416	WINDBLOWN DUST-UNPAVED RD/AREA	65065254000000	FUGITIVE WINDBLOWN DUST	DUST FROM UNPAVED ROADS AND ASSOCIATED AREAS	DUST	SUB-CATEGORY UNSPECIFIED
417	AGRICULTURAL TILLING DUST	47332	FARMING OPERATION		TILLING DUST	
417	AGRICULTURAL TILLING DUST	83972	FARMING OPERATIONS	GROWING SEASON	PLANTING OPS.-DUST	DUST
417	AGRICULTURAL TILLING DUST	83980	FARMING OPERATION		HARVEST - DUST	
417	AGRICULTURAL TILLING DUST	84871	FARMING OPERATIONS	GROWING SEASON	CULTIVATION -DUST	DUST
417	AGRICULTURAL TILLING DUST	30501045	MINING OPERATIONS	SURFACE COAL MINE	BULLDOZING	OVERBURDEN
417	AGRICULTURAL TILLING DUST	30502031	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	TRUCK UNLOADING
417	AGRICULTURAL TILLING DUST	30502032	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	TRUCK LOADING-CONVYR
417	AGRICULTURAL TILLING DUST	30502033	MINING OPERATIONS	NONMETALLIC MINRL	STONE QUARRYING	TRK LDG-FRTEND LOADR
417	AGRICULTURAL TILLING DUST	30502104	MINING OPERATIONS	NONMETALLIC MINRL	SALT MINING	CRUSHING
417	AGRICULTURAL TILLING DUST	30502106	MINING OPERATIONS	NONMETALLIC MINRL	SALT MINING	CONVEYING
417	AGRICULTURAL TILLING DUST	30502513	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	EXCAVATING
417	AGRICULTURAL TILLING DUST	30502514	MINING OPERATIONS	NONMETALLIC MINRL	SAND/GRAVEL	DRILLING & BLASTING
417	AGRICULTURAL TILLING DUST	30502720	MINING OPERATIONS	NONMETALLIC MINRL	SAND DRYING	GAS OR OIL ROTRY DRY
417	AGRICULTURAL TILLING DUST	62061454000000	FARMING OPERATIONS	TILLING DUST	DUST	SUB-CATEGORY UNSPECIFIED
417	AGRICULTURAL TILLING DUST	62061554000000	FARMING OPERATIONS	HARVEST OPERATIONS - DUST	DUST	SUB-CATEGORY UNSPECIFIED
417	AGRICULTURAL TILLING DUST	62061954000000	FARMING OPERATIONS	GROWING SEASON PLANTING OPERATIONS - DUST	DUST	SUB-CATEGORY UNSPECIFIED
417	AGRICULTURAL TILLING DUST	62062054000000	FARMING OPERATIONS	GROWING SEASON CULTIVATION OPERATIONS - DUST	DUST	SUB-CATEGORY UNSPECIFIED
418	WINDBLOWN DUST - AGRIC. LANDS	83337	FUGITIVE DUST	WINDBLOWN DUST	DUST-AG.LAND-NON-PAS	
418	WINDBLOWN DUST - AGRIC. LANDS	83345	NATURAL SOURCES	WINDBLOWN DUST	DUST-DESERT AREAS	

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
418	WINDBLOWN DUST - AGRIC. LANDS	84863	FUGITIVE DUST	WINDBLOWN DUST	DUST-PASTURE LANDS	
418	WINDBLOWN DUST - AGRIC. LANDS	65065054000000	FUGITIVE WINDBLOWN DUST	DUST FROM AGRICULTURAL LANDS (NON-PASTURE)	DUST	SUB-CATEGORY UNSPECIFIED
418	WINDBLOWN DUST - AGRIC. LANDS	65065154000000	FUGITIVE WINDBLOWN DUST	DUST FROM PASTURE LANDS	DUST	SUB-CATEGORY UNSPECIFIED
418	WINDBLOWN DUST - AGRIC. LANDS	94094054000000	WINDBLOWN DUST	DUST FROM UNDISTURBED AREAS	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	47357	CONST. & DEMOLITION	BUILDING	RESIDENTIAL BLDGS	
420	CONSTRUCTION DUST	47365	CONST. & DEMOLITION	BUILDING	COMMERCIAL BLDGS	
420	CONSTRUCTION DUST	47373	CONST. & DEMOLITION	BUILDING	INDUSTRIAL BLDGS	
420	CONSTRUCTION DUST	47381	CONST. & DEMOLITION	ROAD	ROADS	
420	CONSTRUCTION DUST	54551	CONST. & DEMOLITION	BUILDING	INSTITUTIONAL BLDGS	
420	CONSTRUCTION DUST	60400	CONST. & DEMOLITION	BUILDING	GOVERNMENTAL BLDGS	
420	CONSTRUCTION DUST	82149	CONST. & DEMOLITION	BUILDING	UNSPECIFIED BLDGS	
420	CONSTRUCTION DUST	63062254000000	CONSTRUCTION AND DEMOLITION	BUILDING CONSTRUCTION DUST - RESIDENTIAL	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	63062454000000	CONSTRUCTION AND DEMOLITION	BUILDING CONSTRUCTION DUST- COMMERCIAL	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	63062654000000	CONSTRUCTION AND DEMOLITION	BUILDING CONSTRUCTION DUST- INDUSTRIAL	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	63062854000000	CONSTRUCTION AND DEMOLITION	BUILDING CONSTRUCTION DUST - INSTITUTIONAL	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	63063054000000	CONSTRUCTION AND DEMOLITION	BUILDING CONSTRUCTION DUST - GOVERNMENTAL	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	63063254000000	CONSTRUCTION AND DEMOLITION	BUILDING CONSTRUCTION DUST (UNSPECIFIED)	DUST	SUB-CATEGORY UNSPECIFIED
420	CONSTRUCTION DUST	63063454000000	CONSTRUCTION AND DEMOLITION	ROAD CONSTRUCTION DUST	DUST	SUB-CATEGORY UNSPECIFIED
421	LANDFILL DUST	57281	WASTE DISPOSAL	BIODEGRADATION	MUNICIPAL WASTES	
421	LANDFILL DUST	66712	WASTE DISPOSAL	UNSPECIFIED	BIOLOGICAL WASTES	
421	LANDFILL DUST	89490	WASTE DISPOSAL	OTHER	COMPOSTING	
421	LANDFILL DUST	50100401	SOLID WASTE DISPL	GOVERNMENT	LANDFILL DUMP	UNPAVE ROAD TRAFFIC
421	LANDFILL DUST	50100402	SOLID WASTE DISPL	GOVERNMENT	FUGITIVE EMISSIONS	
421	LANDFILL DUST	50400301	SOLID WASTE DISPL	SITE REMEDIATION	OPEN REFUSE STCKPILS	GENERAL
421	LANDFILL DUST	50410020	SOLID WASTE DISPL	SITE REMEDIATION	DUMPING MUNICIPAL SOLID WASTE (MSW)	SUB-CATEGORY UNSPECIFIED
421	LANDFILL DUST	12012202420000	LANDFILLS	CLASS II AND III LANDFILLS		

PMPROF	Profile	SCC	NAME1	NAME2	NAME3	NAME4
421	LANDFILL DUST	19917000000000	OTHER (WASTE DISPOSAL)	COMPOSTING	MATERIAL NOT SPECIFIED	SUB-CATEGORY UNSPECIFIED
421	LANDFILL DUST	19917002600000	OTHER (WASTE DISPOSAL)	COMPOSTING	BIOLOGICAL WASTE (UNSPECIFIED)	SUB-CATEGORY UNSPECIFIED
421	LANDFILL DUST	19999502600000	OTHER (WASTE DISPOSAL)	OTHER	BIOLOGICAL WASTE (UNSPECIFIED)	SUB-CATEGORY UNSPECIFIED
423	LIVESTOCK OPERATIONS DUST	47340	FARMING OPERATION		CATTLE FEEDLOT DUST	
423	LIVESTOCK OPERATIONS DUST	30202001	FOOD/AGRICULTURE	AGRIC.PRODUCTION	BEEF CATTLE	FEEDLOTS
423	LIVESTOCK OPERATIONS DUST	62061654000000	FARMING OPERATIONS	CATTLE FEEDLOT DUST	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	47399	UNPAVED ROAD TRAVEL	ENTRAINED ROAD DUST	CITY & COUNTY ROADS	
470	UNPAVED ROAD DUST	47407	UNPAVED ROAD TRAVEL	ENTRAINED ROAD DUST	U.S.FOREST&PARK RDS	
470	UNPAVED ROAD DUST	47415	UNPAVED ROAD TRAVEL	ENTRAINED ROAD DUST	TIMBER PRODUCTNRDS	
470	UNPAVED ROAD DUST	47423	UNPAVED ROAD TRAVEL	ENTRAINED ROAD DUST	B.L.M. ROADS	
470	UNPAVED ROAD DUST	47431	UNPAVED ROAD TRAVEL	ENTRAINED ROAD DUST	FARM ROADS	
470	UNPAVED ROAD DUST	82156	UNPAVED ROAD TRAVEL	ENTRAINED ROAD DUST	UNSPECIFIED ROADS	
470	UNPAVED ROAD DUST	30300833	PRIMARY METALS	IRON & STEEL	VEHICLE TRAVEL	UNPAVED ROADS-HDV
470	UNPAVED ROAD DUST	64563854000000	UNPAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST-CITY AND COUNTY ROADS	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564054000000	UNPAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST-U.S. FOREST AND PARK ROADS	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564254000000	UNPAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST-TIMBER PRODUCTION ROADS	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564454000000	UNPAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST-B.L.M. ROADS	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564554000000	UNPAVED ROAD DUST	UNPAVED TRAFFIC AREA - AGRICULTURE	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564654000000	UNPAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST-FARM ROADS	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564854000000	UNPAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST (UNSPECIFIED)	DUST	SUB-CATEGORY UNSPECIFIED
470	UNPAVED ROAD DUST	64564954000000	UNPAVED ROAD DUST	UNPAVED TRAFFIC AREAS - PUBLIC	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	21	EMFAC/DTIM	Road Dust	PM	All Vehicles
471	PAVED ROAD DUST	47456	PAVED ROAD TRAVEL	ENTRAINED ROAD DUST	PAVED ROADS (UNSPEC)	
471	PAVED ROAD DUST	83618	PAVED ROAD TRAVEL	ENTRAINED ROAD DUST	FREEWAYS	
471	PAVED ROAD DUST	83626	PAVED ROAD TRAVEL	ENTRAINED ROAD DUST	MAJOR STREETS	
471	PAVED ROAD DUST	83634	PAVED ROAD TRAVEL	ENTRAINED ROAD DUST	COLLECTOR STREETS	

<b>PMPROF</b>	<b>Profile</b>	<b>SCC</b>	<b>NAME1</b>	<b>NAME2</b>	<b>NAME3</b>	<b>NAME4</b>
471	PAVED ROAD DUST	83642	PAVED ROAD TRAVEL	ENTRAINED ROAD DUST	LOCAL STREETS	
471	PAVED ROAD DUST	64063554000000	PAVED ROAD DUST	PAVED ROAD TRAVEL DUST - FREEWAYS	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	64063654000000	PAVED ROAD DUST	PAVED ROAD TRAVEL DUST (UNSPECIFIED)	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	64063754000000	PAVED ROAD DUST	PAVED ROAD TRAVEL DUST - MAJOR STREETS	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	64063954000000	PAVED ROAD DUST	PAVED ROAD TRAVEL DUST - COLLECTOR STREETS	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	64064154000000	PAVED ROAD DUST	PAVED ROAD TRAVEL DUST - LOCAL STREETS	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	64064354000000	PAVED ROAD DUST	PAVED ROAD TRAVEL DUST - RURAL STREETS	DUST	SUB-CATEGORY UNSPECIFIED
471	PAVED ROAD DUST	64064400000000	PAVED ROAD DUST	UNPAVED ROAD TRAVEL DUST- B.L.M. ROADS	MATERIAL NOT SPECIFIED	SUB-CATEGORY UNSPECIFIED