I'm a numbers guy. I like to verify the facts using the available numbers and facts gathered elsewhere.

Facts gathered elsewhere
{trust me that I researched these things online a few months ago}

- Each standard railroad coal car can carry approximately 120 tons of coal.
- Each standard railroad coal car has a coupled length of 53.1 feet.
- Each year has 365 days.

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The calculation for 5.7 million tons of coal per year
Suppose we assume that there will be 5.7 million tons of coal delivered per year by train.
5,700,000 tons per year ÷ 365 days per year = 15,616 tons per day (every day).
15,616 tons per day ÷ 120 tons per car = 130 cars per day.
130 cars per day x 53.1 feet per car = 6,910 feet per day (not counting the locomotives)

It is not uncommon that a long heavy coal train may require multiple locomotives. Typically there can be four engines pulling at the front, two engines pushing in the middle and three engines pushing at the rear. That is a maximum of 9 locomotives. If we consider that a modern diesel-electric locomotive (engine) is about 67 feet long and there are up to 9 engines, then arguably there is up to an additional 600 feet of length due to the locomotives.

6,910 feet + 600 feet = 7,510 feet for a typical train.
7,510 feet per train ÷ 5,280 feet per mile = 1.42 miles per train.

If we suppose that the train speed in town approaching the port will be about 5 miles per hour,
then 1.42 miles ÷ 5 miles per hour = 0.284 hours for the train to clear a crossing.
0.284 hours x 60 minutes per hour = 17 minutes that each crossing will be blocked for each train

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The calculation for 44 million tons of coal per year
Now suppose there will be 44 million tons of coal per year.
44 million tons ÷ 5.7 million tons = 7.72 (multiplier factor)

7.72 x 1.42 miles = 11.0 miles of train each day.
At 5 miles per hour, each day will see 7.72 x 17 minutes = 131 minutes of blocked crossings each day. That comes to 2 hours and 11 minutes each day when crossings will be blocked.

If coal companies don't make longer trains so that there will be fewer trains per day, then there will be (nearest integer) eight (8) coal trains per day. That's one train every 3 hours, 24-7, delivering a total 120,548 tons of coal each day or roughly 15,068 tons in each train or 5,023 tons of coal per hour = 84 tons of coal per minute.

There will be a lot of coal dust produced by handling and transferring coal at the rate of 84 tons per minute. How much? First of all, everyone who has handled coal knows that it is VERY dusty and the intensely black coal dust gets into anything.
See https://en.wikipedia.org/wiki/Coal

84 tons of coal per minute x 2000 lbs per ton = 168,000 lbs of coal per minute

If we assume 1 part per million (1ppm) or 0.000001 ratio of coal dust to solid coal, then
168,000 lb. per minute x 0.000001 = 0.168 lb. of coal dust per minute.
0.168 lb. of coal dust per minute x 86,400 minutes per day = 14,515 lbs of coal dust per day. That's 7.26 tons of coal dust per day.

The annual emission for 1 ppm is 14,515 x 365 = 5,297,975 lbs per year = 2,649 tons of coal dust per year.

I wonder where all that coal dust will go.

For a better understanding of the impact of coal dust on humans and animals, OSHA has a very informative page at
http://www.osha.gov/SLTC/healthguidelines/coaldust-less5percentsio2/recognition.html

=Howard Leighty=

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