



**west virginia department of environmental protection**

Division of Air Quality  
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Earl Ray Tomblin, Governor  
Randy C. Huffman, Cabinet Secretary  
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**ENGINEERING EVALUATION / FACT SHEET**

**BACKGROUND INFORMATION**

Application No.: R13-3203  
Plant ID No.: 051-00200  
Applicant: Unimin Corporation  
Facility Name: Benwood Terminal  
Location: Marshall County  
NAICS Code: 488210  
Application Type: Construction  
Received Date: August 13, 2014  
Engineer Assigned: Steven R. Pursley, PE  
Fee Amount: \$1,000.00  
Date Received: August 19, 2014  
Complete Date: September 18, 2014  
Due Date: December 17, 2014  
Applicant Ad Date: August 13, 2014  
Newspaper: *The Intelligencer*  
UTM's: Easting: 522.71 km      Northing: 4,427.45 km      Zone: 17  
Description: Construction of a sand transfer and storage facility

**DESCRIPTION OF PROCESS**

Raw materials arriving by railcar will consist of various grades of frac sand, and may include resin coated sand. These materials have already been washed, dried and screened prior to loadout, thereby removing much of the fines associated with unprocessed sand. Railcars holding approximately 100 tons per car will either be unloaded directly into covered transport trucks using a portable conveyor with dust collection, or into one of six silos for future loadout.

Rail unloading for silo storage will consist of railcar emptying through an unloading hopper onto either of two 200 TPH below ground conveying systems which are controlled by dust collectors. Material is then transferred to one of two enclosed 400 TPH bucket elevators. At the top of the bucket elevators material then flows through an enclosed distributor that feeds one of three, 3,000 ton silos directly, or drops onto an enclosed belt

conveyor to feed one of three other silos. Each silo is equipped with a loadout spout directly beneath it for the loading of trucks.

Material is only transferred at this facility. There is no processing involved.

## SITE INSPECTION

Alfred Carducci of DAQs Northern Panhandle Regional Office performed an inspection of the site on October 31, 2014. The following comes directly from his report:

*"On August 12, 2014, I visited the Unimin Corporation's new sand transloading location in between the Ohio River and West Virginia State Route 2 in Benwood, WV. Upon my arrival I was met by Mr. Mark Rosen, Transloading Solutions Yard Supervisor. He informed me that no installation of the new Unimin facility has begun. He put me in contact with Mr. Nelson Ware who is Unimin's Manager of Terminals and Warehouses. Mr. Ware showed me a Air Quality Business Certificate to Operate and I informed him that this is not a 45CSR13 air quality permit that permits sources of air pollution to be constructed and operated at this location.*

*Mr. Ware then contacted Ms. Susan Armentrout by phone, who is the Senior Environmental Specialist for Unimin Corporation. She told me that the 45CSR13 air permit application was mailed to the permitting section in Charleston on August 11, 2014. They are planning to perform site preparation only at this location in approximately two weeks. No installation of any equipment will take place until a 45CSR13 West Virginia Division of Air Quality permit is received. Ms. Armentrout informed Mr. Ware that she is fully aware of what kind of site preparation is permitted prior to receiving an 45CSR13 Air Quality permit.*

### *Second Site Visit:*

*On October 31, 2014, I revisited the Unimin site. I first noticed that a portable rock crusher has been set up at the entrance to the site. A front end loader was carrying dirt from piles near the entrance and placing it into the back of a dump truck. When I spoke to the driver of the loader he informed me that he worked for Yost Excavating and Mr. Keith Yost was his managing supervisor.*

*I spoke to Mr. Yost and he informed me that the local railroad was the owner of the property and had hired them to crush up concrete slabs that were in the ground. Once the concrete slabs were removed they were going to be off the property.*

*I then traveled a little further onto the site to find concrete being poured for the base of some storage tanks. One (1) storage tank was in the process of being erected. I spoke to the site supervisor, Mr. Victor Breazzeal of Alpine Industrial Systems. He informed me that they were hired by Unimin to prepare the site and erect the six (6) storage silo's. I asked him if he was aware that no Permit from the West Virginia Division of Air Quality has been issued and construction of the tanks was not allowed until the permit has been issued. He assumed that all permits were aquired by Unimim Corporation.*

*Mr. Breazzeal immediately phoned his supervisor, a Mr. Doug Campbell of Alpine Industrial Systems. I spoke to Mr. Campbell on the phone. He then contacted Ms. Susan Armentrout by phone, who is the Senior Environmental Specialist for the Unimin Corporation. We had a three (3) way conversation. She informed me that they were just constructing the first level and thought that it would be considered the base. I informed her that that was not the case. They immediately stopped all construction of the silo, but continued to prepare the other concrete pads for the other silos. I informed Ms. Armentrout that the concrete work could continue.”*

### ESTIMATE OF EMISSIONS BY REVIEWING ENGINEER

Since no processing and no open storage of material occurs at the facility, the only emissions are Particulate Matter emissions resulting from transfer points and haul road emissions. Emission factors were taken from Table 11.19.2-2 of AP-42. Although chapter 11.19 of AP-42 is primarily for crushed stone, the narrative does discuss manufactured sand. Control efficiencies for enclosures were taken from WVDAQ general permit G40-C. Fabric filters (FF) were assigned a control efficiency of 99%.

The applicant did not include haul road emission calculations so they were performed by the writer using AP-42. Parameters used were based on the plot plan and the throughputs as outlined in the application. A control efficiency of 70% was used for the water truck which will be required in the permit. Note that all emissions are based on the facility operating at full capacity 24 hours a day, 365 days per year.

Controlled emissions from the facility should be as follows:

	PM		PM <sub>10</sub>	
	lb/hr	tpy	lb/hr	tpy
Transfer Points (w/o FF)	3.0	10.52	1.10	4.82
Transfer Points (w/ FF)	0.15	0.64	0.06	0.24
Haul roads	21.74	95.21	9.78	42.85
<b>Total</b>	<b>24.89</b>	<b>106.37</b>	<b>10.94</b>	<b>47.91</b>

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## REGULATORY APPLICABILITY

The following state regulations apply to the facility (no federal rules i.e. NSPS, MACT/NESHAPs are applicable):

45CSR13 Permits for Construction, Modification, Relocation and Operation of Stationary Sources of Air Pollutants, Notification Requirements, Administrative Updates, Temporary Permits, General Permits, and Procedures for Evaluation).

The construction of the Benwood Terminal has a potential to emit a regulated pollutant in excess of six (6) lbs/hour and ten (10) TPY and, therefore, pursuant to §45-13-2.24, the facility is defined as a “stationary source” under 45CSR13. Pursuant to §45-13-5.1, “[n]o person shall cause, suffer, allow or permit the construction . . . and operation of any stationary source to be commenced without . . . obtaining a permit to construct.” Therefore, Unimin is required to obtain a permit under 45CSR13 for the construction and operation of the well pad.

As required under §45-13-8.3 (“Notice Level A”), Unimin placed a Class I legal advertisement in a “newspaper of general circulation in the area where the source is . . . located.” The ad ran on August 13, 2014 in the *Intelligencer* and the affidavit of publication for this legal advertisement was submitted on September 4, 2014.

45CSR17 To Prevent and Control Particulate Matter Air Pollution From Materials Handling, Preparation, Storage and Other Sources of Fugitive Particulate Matter.

The main requirement of 45CSR17 is the prohibition of fugitive particulate matter which causes or contributes to statutory air pollution. Unimin will comply with this requirement with the use of pneumatic transfer systems controlled by a baghouse and dust collectors. Additionally, a water truck will be maintained on site to control emissions from haul roads.

45CSR22 Air Quality Management Fee Program

The facility is not subject to any NSPS, MACT or NESHAP. Additionally, the facility is defined as a minor source under 45CSR30.

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Therefore the facility is not subject to 45CSR30 and will pay its annual fees through the Rule 22 program.

### **Nonapplicability Determinations**

45CSR7 To Prevent and Control Particulate Matter Air Pollution From Manufacturing Processes and Associated Operations

Since this is not a manufacturing source (sand is simply unloaded, stored and shipped) it is not subject to 45CSR7.

### TOXICITY OF NON-CRITERIA REGULATED POLLUTANTS

No non-criteria regulated pollutants are expected to be emitted from the facility.

### AIR QUALITY IMPACT ANALYSIS

Because this is a minor source as defined in 45CSR14, no modeling was performed.

### MONITORING OF OPERATIONS

The permittee shall maintain the following records:

- \* Records of monthly EPA Method 22 opacity testing and any corrective actions taken.
- \* Monthly throughput of sand.
- \* Monthly inspection of all baghouse bags.

## RECOMMENDATION TO DIRECTOR

Information supplied in the application indicates that compliance with all applicable regulations will be achieved. Therefore it is the recommendation of the writer that permit R13-3203 for the construction of a sand distribution terminal in Benwood, Marshall County, be granted to Unimin Corporation.

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Steven R. Pursley, PE  
Engineer

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November 10, 2014

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