

## Module 17: Air Pollution and Noise Control Plan

### 17.1 Processing Facilities

a) Indicate whether or not there will be any processing facilities in the permit area. (Key to Exhibit 9)

<i>Type of Processing Facility</i>	<i>YES</i>	<i>NO</i>	<i>If Yes:</i>	<i>DRY</i>	<i>WET</i>
Crushing	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Screening	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Cleaning	<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Stockpiling	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

b) Describe the processing facilities and the amount of minerals to be processed.

1) Processing Facilities

The processing facilities will consist of an impact crusher jaw crusher, cone crusher, vibratory screen, and radial stacker. The operator is proposing to process 325,000 TPY of limestone.

2) Minerals to be processed 1,300 tons/day

3) If the amount of minerals to be processed is less than 200 tons/day, describe the management practice to be utilized to control fugitive dust. (**Note:** If the amount of minerals to be processed is equal to or greater than 200 tons/day, contact the appropriate DEP Regional Office Air Quality Program).

Permit GP3-63-00970F was secured through the air quality program issued on 5/27/2022 for the Maggie Lynn mining site. Site equipment is electric and includes two crushers a vibratory and non-vibratory screen and two conveyors. Permit authorization included on pages 17-4 to 17-12.

### 17.2 Fugitive Dust Control

Describe the fugitive dust control practices that will be utilized at the surface coal mining operation to include practices that will be utilized for the following activities:

a) Access roads, haul roads and adjoining portions of the public road.

Use of water and/or calcium chloride on access and haul roads, and prompt removal of earth or other materials from the public road. Road will be watered at least daily during dry weather. Any water need for the dampening of the haul road, dampening stockpile or to be used with the sprays will come for the pit. Based on the use of flocculant the water being produced at the pit is more than the 1,000 gallons per day than the operator is saying is needed to meet the demand of all of the fugitive dust controls measures using water at the limestone mining operation site.

b) Truck traffic (including fugitive particulate material from truck loads).

Travel speed of trucks and equipment will be restricted. A speed limit of 15 mph is expected when on haul roads of the permit area, and 5mph will be honored when crossing the Equitable Gas D-480 gas line, per an agreement. This limit will be noted with site signage. All trucks will be tarped leaving the site. Signage and tarping of trucks will be enforced by the permittee.

c) Drilling operation.

Drills will be equipped with hoods and dust collection devices. If these are not adequately eliminating fugitive dust then only drills equipped with water sprays will be utilized.

- d) Overburden removal and coal extraction.

The amount and area of blasting will be restricted at any one time. Blasting will be redirected if excessive fugitive dust is produced.

- e) Stockpiles (overburden, topsoil, coal).

Lime stockpiles will be treated with water and/or calcium chloride when necessary. Dampening the stockpiles prevents dust blow-off. Topsoil stockpiles (which should be minimal with the underground mine) will be seeded as soon as possible with temporary quick growing grasses to provide surface stability. When possible, topsoil removed from a new area will be spread directly onto a recently reclaimed area and seeded with permanent grasses to reduce the amount that has to be stockpiled.

- f) Loading and unloading areas.

Front-end loader operators will be instructed to minimize the bucket height and thus the drop distance between the bucket end the truck bed being loaded.

- g) Crushing and other processing equipment.

Crushing equipment is addressed in the Air Quality permit shown on pages 17-4 to 17-12.

- h) Conveyors.

Conveyor equipment is addressed in the Air Quality permit shown on pages 17-4 to 17-12.

Activities under 17.2 a) through h) which are addressed and regulated as part of a separate Air Quality Permit need not be addressed on this module. Indicate which activities (or specific aspects of an activity) are addressed under a separate Air Quality Permit.

Not Applicable

### 17.3 Noise Control Plan

- a) List all noise sources from equipment and mining activity that will originate within the permit area.

*Blasting addressed in module 16 provides the highest decibel noise that will be associated with the mining. This will be at a maximum as blasting is done to open underground mine portals. Typical equipment that will be used on site are the crushers (breakers) used with the processing plant and trucking in and out of the site, and all associated noise of the usage of that equipment.*

- b) Indicate the standard days and hours of operation for mobile and stationary equipment: *Plans are to work primarily one daylight shift at the site. The on-site equipment should not be operating continuously. Therefore, there should be no equipment operations, during nights, weekends, or holidays.*

- c) Indicate any of the following non-standard/extraordinary operational days and hours:

- Continuous 24 hours a day. Which equipment?  
 Night time hours. Which equipment?  
 Weekends. Which equipment?  
 Holidays. Which equipment?  
 Other. Which equipment?

## Neiswonger Construction, Inc. Underground Mining Operation, SMP 63192001 Module 173f. Noise Study of Pre-Mining and Estimate of Mining Noise Levels

### Introduction

The noise assessment as follows was prepared for Neiswonger Construction, Inc. for the future Maggie Lynn underground limestone mining operation. The site is along Morey Road in Deemston Borough, Washington County, about two mile west of Fredericktown borough. The noise assessment was done to get a baseline of noise levels near the future coal mine.

### Instrumentation

Noise levels were taken using a Center 322 Type 2, Sound level meter with a datalogger. The equipment has auto ranging from 30 to 130 dBs. The data logger was programmed to take a reading every twenty seconds.

### Testing Conditions

Initial testing was conducted on Thursday, May 25, 2023, from 9:30 am until 3:00 pm, while the equipment of the crushing plant was in operation. Weather for the testing timeframe was between 53°F and 65°F, with winds of 5 to 10 mph. During testing, it was mostly sunny. A second test to evaluate ambient condition was conducted on Sunday, November 19, 2023 from 12:00 noon until 3:00 pm. The mining site was inactive at this time. Weather for the second test was overcast with temperatures between 48°F and 53°F and winds of less than 5 mph. The effect of the wind during the second study was negligible.

### Testing Control Locations

A summary of the result of the testing are as follows:

1. East Bethlehem Church. A Small Church property about 2,500' northeast of the current mining area. The church property sits almost 40' in elevation above the top to the pit in the current mining area, but there is a ridge between the two that peaks at approximately 110' above the mine site (70' in elevation above the church).
2. Earl and Tracy Gilpin Property. This property sits at the top of the pit in the current mining area. It is approximately 3,000 from the mining pit but is within 300' of the haul road.
3. End of Pump Station Road. This location is about 30' in elevation below the bottom of the existing pit and is 1,300 feet away from the nearest location of the main pit. The location is at the end of the township road and is next to the boundary that defines the remaining road as a private drive servicing two property owners. The testing site is separated from the mining operation by some tree line, but most of the area between the two locations is open field.
4. Computer Country Doctor – 203 Pump Station Road. The home on the property is approximately 1,640' from the main pit and 110' above the bottom pit. The pit is openly visible from the property. There are tree rows between the home and the mining operation, but the elevation change allows for the property owner to see most of the mining operation.

## Testing Results

A summary of the result of the testing taken on May 25<sup>th</sup> 2023 are as follows:

1. East Bethlehem Church. At this location the logger was also situated about 16' above the road in elevation. The main road (SR2024) at this location runs downhill from east to west. This was very noticeable in the testing as vehicles going uphill were louder than the cars coming downhill. The road averaged a single vehicle about every three minutes. The sound constantly varied from 38 to 44 db with the variance in sound being a handful of birds in the area. Vehicles consistently showed in the 60 to 70 db range with trucks going uphill making the high end of the scale. The highest single recorded sound was a garbage truck that stopped at a house just across from the data logger. It recorded 80.3 db. The crushing plant at Maggie Lynn was in operation while testing was going on, but at this location could not be heard.
2. Earl and Tracy Gilpin Property. The logger was set up on the top of a concrete block pillar that sits 40 feet from the East side of Morey Road. At this location you are 270' North of the haul entrance of the Maggie Lynn mine. The ambient sound levels were dictated by birds and vehicle traffic. The road averaged a single vehicle about every 2.25 minutes. The ambient levels were consistently in the high 30's to low 40's range except for vehicle traffic, which ranged from 60 to 68 db when passing the site. It is noted a truck that left the Maggie Lynn quarry turning South onto Morey Road (the truck was never closer than 270' to the logger). The truck had a level of 53.2 db. The highest sound volume achieved during testing was 71.7db for a truck that was breaking to turn into the entrance of the haul road.
3. End of Pump Station Road. The crushing operation at the Maggie Lynn operation is the dominating noise at this location. The birds are only noticed as you listen for them. The crushing plant works at two separate noise levels as it varies with what appears to be the main conveyor belt. When this belt is operating, the plant runs about 7 db higher at the logger location than when it is not.
4. Computer Country Doctor. The sound levels at this location, which is higher in elevation and about 250' further away from the testing done at location 3, mirrors the same results with one exception. The readings consistently run about 6 decibels lower. The increased noise of the conveyor belt is noticed just as it is at location three, but it is not as loud.

A summary of the result of the testing taken on November 19<sup>th</sup> 2023 at the same locations, with the wind being close to nil during most of the testing, especially at locations 3 and 4, the results are as follows:

1. East Bethlehem Church. The sound constantly varied in the mid 30s db. The primary noise is the rustling of trees. Vehicles consistently showed in the 60 to 70 db range with trucks going uphill making the high end of the scale with vehicles going by about every 7 minutes. The highest single vehicle being a truck that recorded at 75.1 db.
2. Earl and Tracy Gilpin Property. The road averaged a single vehicle about every 4.5 minutes. The ambient levels were consistently in the low 30's to mid-30s range except for

vehicle traffic, which normally ranged from 60 to 68 db when passing the site. The highest sound volume achieved during testing was 72.5 db for a truck going north along the road.

3. End of Pump Station Road. During the study there was no noise other than ambient wind, and there was very little wind noticeable. Typical readings were just over 30 db. The low reading often was below the reading capacity of the sound logger, which has a minimum capacity of 30 db.
4. Computer Country Doctor. The reading at this location duplicated those at location number 3. There were two exceptions as a tractor at a nearby farm just over 1,000 away was recorded at a peak level of 37.4 db, and a small engine aircraft flew directly over the site and hit a level of 55.6 db.

Table 1. Sound Test

Meter ID Map Local	Location	Distance to the Nearest edge of Mining Pit	Testing Date	Low Decibel Reading (dB)	High Decibel Reading (dB)	Typical Db Reading During Test
1	East Bethlehem Church	2,680	May 25th	36.4	80.3	42.0
			Nov 19th	33.4	75.1	36.8
2	Earl and Tracy Gilpin	3,190	May 25th	35.9	70.4	41.0
			Nov 19th	31.2	72.5	34.1
3	End of Pump Station Road	1,340	May 25th	44.8	63.8	49.0 or 56.5
			Nov 19th	>30.0	35.2	>30.0
4	203 Pump Station Road	1,590	May 25th	39.5	56.4	42.7 or 50.0
			Nov 19th	>30.0	55.6	31.2

The typical Db reading during the test would correspond to the mode (the most occurring number) of the numbers Db levels that occurred as the test was being done. There is an adjustment made as the testing at sites 3 and 4 on the May 25<sup>th</sup> study gave two noticeably different noise levels as different equipment was running during the crushing operation. This is mentioned in the summary on the preceding page. As a result, two different values are given as the typical noise level.

### **Estimated Noise Levels from the Proposed Mine Operation**

Noise levels from the Maggie Lynn operation shall be minimally different than the noise levels generated by the current above ground mining operation. The daily sound volume at the operation is dictated by the crushing operation. The sound study shows that on the western side of the operation, away from the highwall the sound carries and is noticeable along the homes of Pump Station Road.

This will not change with the installation of the underground operation. What will change is the blasting associated with the underground mine as it moves further from the surface operation and further underground. This volume will decrease with time.

Noise level projections that are anticipated with an above ground mine and have been confirmed with the sound survey are in line with a study entitled "Air Overpressure" written by P.K Singh, M. Klemenz and C. Niemann-Delius who were with the Institute of Mining Engineering and the Institute of Technical Acoustics at Aachen University, Germany.

Studies have shown that typical construction sites where solid material is being broken up by equipment have an average sound of between 80 to 85 dB with maximums during the day of close to 100 dB. The equivalent sound for these levels would be a blender or a power lawn mower. For site workers prolonged exposure to these noise levels can cause permanent hearing loss. Workers in these areas will wear headsets to reduce the health impact.

Regarding on site blasting. The site is mostly isolated and the typical noises that will emanate from the site will likely not be heard by those in the local community outside of the four homes on Pump Station Road, where blasting will be easily heard. Blast warning signals start 5 minutes prior to blasting and conclude within one minute of the use of explosives. A final prolonged warning signal occurs once the area of blasting has been inspected and everything is deemed safe. US Office of Surface Mining and Reclamation Enforcement specifies a safe overpressure of 133dB for impulsive air blast when recording is accomplished with equipment having a frequency range response of at least 2–200Hz. They further reported that an impulsive event sound level of 140dB represents a reasonable threshold for glass and plaster damage.

If noise is free to spread out in all directions without outside interference, its intensity will decline with the inverse square law. A noise that is 100 dB at one meter will have an intensity of only 1/100 as much at ten meters. That's 20 decibels less since a bel corresponds to a factor of ten. So, at 10 meters the sound is 80 dB. At 100m the intensity is down to 60 dB, and so on. Based on this and if there are no other external factors a 130 dB blast will still have an equivalent sound of approximately 100 dB at the nearest home along Pump Station Road, but the blast will also be able to be heard as far as 60 miles away.

As was noted in the sound study the homes of Deemston will have little impact from any noise associated with the mining operation with the exception of the loudest blasts. The homes west of the operation will continue to have some audible impact based off the noise associated with the ongoing mining at the Maggie Lynn Quarry.