EARTHRES, a Division of RESPEC Company
toll free 800-264-4553

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EARTHRES
a Division of RESPEC

HEADQUARTERS / PHILADELPHIA REGION
P. O. Box 468, Pipersville, PA 18947
phone 215-766-1211

APPALACHIAN REGIONAL OFFICE
P. O. Box 794, Morgantown, WV 26505
phone 304-212-6866

May 1, 2025

Mr. Richard E. Tallman, P.E.
Environmental Engineer
Bureau of District Mining Operations
PA Department of Environmental Protection
5 West Laurel Boulevard
Pottsville, PA 17901-2454

SUBJECT: Response to Technical Deficiency Letter – Application No. 7974SM1C11
Heidelberg Materials Northeast LLC
Rock Hill Quarry Operation
NPDES Permit No. PA0594121
East Rockhill Township, Bucks County
EARTHRES Project No. 061003.052

Dear Mr. Tallman,

On behalf of Heidelberg Materials Northeast LLC (Heidelberg), EARTHRES, a Division of RESPEC (EARTHRES) is submitting one (1) original and two (2) copies of a response to the Pennsylvania Department of Environmental Protection (PA DEP) Review Letter dated April 1, 2025. For ease of reference, your comments are listed below in *italics* and our response in **bold**.

The following documents are included with this response to comments update:

- Module 1: Large Noncoal Mine Permit Application Replacement Page;
- Module 5: Property Interest/Right of Entry;
- Attachment 7.6: Natural Occurring Asbestos (NOA) Supplement;
- Module 10: Operational Information;
    - Attachment 10.5: Overflow Channel Design Calculations;
- Module 17: Air Pollution and Noise Control Plan;
- Module 18: Land Use and Reclamation Map; and
- Module 23: Revegetation.

1. *Please provide the most up-to-date copies of the following permit modules:*
    a. *Module 1: Large Noncoal Mine Permit Application*
        i. *Please update the information on page 1-1 Title 25 PA. Code §77.101.*

Response: Module 1 has been revised to include updated applicant information.

b. *Module 5: Property Interests/Right of entry*
    i. *Please update the information in 5.1a) Title 25 Pa. Code §77.101.*

Response: Module 5 section 1a) has been revised to provide the updated owner information to "Heidelberg Materials Northeast LLC".

c. *Module 7: Geology*
    i. *Please provide a completed Natural Occurring Asbestos Supplement – Form No. 5600-PM-BMP0022 Title 25 Pa. Code §77.403 and 404.*

Response: Attachment 7.6: NOA Supplement and associated attachments have been included with this response package.

d. *Module 10: Operational Information*
    i. *Module 10.5 Final Grade and Drainage – Please address the method that overflow water from the water filled impoundment will be permanently conveyed to the unnamed tributary to Tohickon Creek Title 25 PA Code §77.456.*
    ii. *Please update the Hanson/Heidelberg nomenclature in the modules, Title 25 Pa. Code §77.101.*

Response: Module 10 has been updated to reflect the change in company nomenclature and revised operating conditions including a proposed overflow channel design for the final water filled impoundment.

e. *Module 17: Air Pollution and Noise Control Plan*
    i. *Please review and update the Module 17 and remove references to Richard E. Pierson Materials Corporation – Air Quality General Permits. Title 25 Pa. Code §77.455.*
    ii. *Please update other pertinent information such as references to addendums plans and guides. Title 25 Pa. Code §77.455*

Response: Module 17 has been revised to reflect the revised operating conditions.

f. *Module 18: Land Use and Reclamation Map*
    i. *Please show the permanent overflow water conveyance from the water filled impoundment to unnamed tributary to Tohickon Creek, Title 25 Pa. Code §77.456.*

Response: Exhibit 18: Land Use Reclamation Map has been updated to identify the proposed overflow channel section locations.

g. *Module 23: Revegetation*
   i. *Please revise the Permanent Cover Seed Mixture listed in Module 23.3. The PA Game Commission no longer recommends the plantings of crown vetch or tall fescue for permanent cover. The recommended replacements are a combination of big and little bluestem, Indiangrass and switchgrass. Title 25 Pa. Code §77.408.*

Response: Module 23 has been updated to replace permanent cover seed mixture with big and little bluestem, Indiangrass and switchgrass.

Should you have any questions or need any additional information to complete your review, please contact me at (215) 766-1211.

Sincerely,
EARTHRES, a Division of RESPEC

Joseph JungTaek Kim, P.E.
Project Manager

Matthew S. Weikel, P.G.
Senior Hydrogeologist/Technical Manager

Enclosures: As stated

Cc: Andrew Gutshall (Heidelberg Materials)

MODULE 1

LARGE NONCOAL MINE PERMIT APPLICATION REPLACEMENT PAGE

5600-PM-BMP0315-1 Rev. 1/2014

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF MINING PROGRAMS

DEP USE ONLY
Date Received
Permit Number

LARGE NONCOAL (INDUSTRIAL MINERALS) MINE PERMIT APPLICATION

Before completing this form, read the step-by-step instructions provided with this Permit Application Package.

SECTION A. APPLICANT INFORMATION

Applicant Name
Heidelberg Materials Northeast LLC

Mailing Address
7535 Windsor Drive, Suite 300
(Street # and Name or P.O. Box)

(Address Line 2)

Allentown | PA | 18106
(City) | (State) | (Zip Code + Four)

Applicant Type
- ☐ Individual (INDIV)
- ☒ PA Corporation (PACOR)
- ☐ Non-PA Corporation (NPACO)
- ☐ General Partnership (PARTG)
- ☐ Limited Partnership (PARTL)
- ☐ Municipality (MUNI)
- ☐ Sole Proprietorship (SOLEP)
- ☐ Other (OTHER)

(610) 366-4600 Ext.
(Telephone #)

(FAX #)

Surface Mining Operator's License #
24143
☐ Pending

Applicant Contact
Gutshall | Andrew | J.
(Last Name) | (First Name) | (MI)

Mine Permitting Manager
(Title)

Mailing Address ☒ **Check here if the address is the same as listed above**

(Street # and Name or P.O. Box)

(City) | (State) | (Zip Code + Four)

andrew.gutshall@heidelbergmaterials.com | (610) 366-4819 Ext. | (610) 871-5994
(Email Address) | (Telephone #) | (FAX #)

SECTION B. DESCRIPTION OF ACTIVITY

Application Type
☐ New ☒ Revision/Modification ☐ Renewal ☐ Transfer Permit Number 7974SM1

Type of Mining Activity(ies)
☒ Surface Mining ☐ Underground Mining (Includes Surface Effects of Underground Mining) ☐ Incidental Coal Extraction
☐ Other (specify)

SECTION C. SITE INFORMATION

Operation/Site Name Rock Hill Quarry

Operation/Site Location

County(ies)	Municipality(ies)
Bucks	East Rockhill Township

MODULE 5

PROPERTY INTEREST/ RIGHT OF ENTRY

Module 5: Property Interests/Right of Entry

Instructions: Provide the following information on an 8 1/2" x 11" sheet of paper. Attach the page(s) to this module and identify as Exhibit 5: Property Interests/Right of Entry. Identify the module number and letter (e.g 5.1c) on the attached page(s). Each owner name listed in this module must be exactly the same as the name is identified on the maps and other documents.

5.1 Permit Area. [§77.163] For each parcel of land within the permit area provide the following information: (identify each parcel and key to maps.)

a) the names and addresses of every legal or equitable owner of record; the holders of record of any leasehold interest; and any purchaser of record under a real estate contract of the surface property to be affected by surface operations and facilities and of the mineral to be mined;

Heidelberg Materials Northeast LLC

7535 Windsor Drive, Suite 300

Allentown, PA 18106

Parcel No. 12-009-102

Parcel No. 12-009-016

Parcel No. 12-009-017

b) the documents on which the applicant bases the legal right to enter and commence noncoal mining activities and whether that right is subject of pending court litigation; and

Deeds of ownership are recorded in the Recorder of Deeds office in Bucks County. There is no pending court litigation concerning the rights of ownership for the parcels. Deed may be recorded under previous business names.

c) A Consent of Landowner Form "Supplemental C" Form 5600-FM-MR0050 when applicable (indicate whether the Form is contained in this application or will be submitted with successive bonding phases – if Consent of Landowner is not applicable, indicate reasons.)

A Consent of Landowner Form for the area currently covered under SMP No. 7974SM1 is on file with the Department.

5.2 Contiguous Area. [§77.410(a)(1)] For each parcel of land contiguous to the permit area provide the names of the owners of record of the surface. (Identify each parcel and key to maps.)

See Attachment 5, on file with department.

5.3 Adjacent Area. [§ 77.410(a)(3)] For each parcel of land within 1,000 feet of the permit area provide the name of the owner of record of the surface property. (Identify each parcel and key to maps.)

See Attachment 5, on file with department.

ATTACHMENT 7.6

NATURALLY OCCURING ASBESTOS (NOA) SUPPLEMENT

APPLICATION SUPPLEMENT
NATURALLY OCCURRING ASBESTOS (NOA)

Applicability: This supplement is applicable only for those operations where the permit area or areas in proximity contain igneous and/or metamorphic rock types (and their derived soils) with the potential to host *naturally occurring asbestos* (NOA).

The purpose of this application supplement to the noncoal permit application is as follows:

- Supply additional information about the geologic deposits (rock and soil) that exist within the permit area that have the potential to host NOA.
- Provide an assessment regarding the disturbance and possible emission of NOA into the atmosphere (as *fugitive dust*).
- Determine if the applicant needs to develop a monitoring plan in cases where NOA is known to be present or is potentially present.
- Determine if the applicant needs to develop a mitigation plan in cases where NOA is known to be present or is potentially present.

Submittal: This supplement must be prepared and submitted by a Pennsylvania-registered professional geologist (PG) with experience in NOA mineralogy and petrology.[1] If a site is determined to contain NOA, a *subject matter expert* (SME) may be required to establish appropriate monitoring protocols and engineering controls.

The operator is encouraged to consult with their respective Department of Environmental Protection (DEP) District Mining Office (DMO) prior to submitting this supplemental information. If the operator determines that NOA is known to exist or may exist on the site, a pre-application meeting is strongly encouraged prior to application submittal.

Definitions

"*Naturally occurring asbestos*" *(NOA)* is defined as, asbestos that is a natural component of soils or rocks as opposed to a commercially processed or manufactured asbestos containing material (such as insulation or pipe wrapping) that has been imported to a site.

"*Fugitive dust*" is defined in §77.1 as, "Particulate matter not emitted from a duct or stack which becomes airborne due to the forces of wind or surface noncoal mining activities, or both. During surface noncoal mining activities the term may include emissions from haul roads; wind erosion of exposed surfaces, storage piles, processing facilities and spoil piles; reclamation operations; and other activities in which material is either removed, stored, transported or redistributed."

"Subject matter expert" (SME) is defined as, a professional individual who possesses expert level knowledge of a particular discipline. This individual should hold professional licensure or accreditation (i.e. registered Professional Geologist (PG), registered Professional Engineer (PE), Certified Industrial Hygienist (CIH), or other qualified person). For the purposes of this supplement, expertise should be met through education and experience with respect to initial identification, testing/monitoring, and mitigation of NOA or asbestos.

[1] If the NOA expert is not a PA-registered PG then the applicant must supply the submittal through a licensed PG who has reviewed and approved the site-specific information.

Provide the following documentation and plans as specified.

1. Naturally Occurring Asbestos (NOA) determination [§§ 77.130, 77.404, 77.410]

Select one of the following and attach a geologic assessment in support:

☐ NOA is not expected to exist within the proposed/existing permit and/or general area. No additional information for this supplement will need to be submitted.

☐ NOA may exist within the proposed/existing permit area based on the geologic setting. Provide the following additional items:

a. Results of exploration and testing that was designed to detect NOA in the rock mass or in specific NOA-bearing zones. This may take the form of a qualitative geologic survey including exploration drilling, face sampling, geological mapping, etc.

b. Include a petrographic analysis report (including microscopy).

c. Explain the proposed monitoring program (Section 3).

☒ NOA is known to exist within the proposed/existing permit area. Provide the following additional items:

a. Results of exploration and testing that was designed to detect NOA in the rock mass or in specific NOA-bearing zones. This may take the form of a qualitative geologic survey including exploration drilling, face sampling, geological mapping, etc. ***See November 15, 2019 Qualitative Geologic Survey Report (QGSR) prepared by EARTHRES.***

b. Include a petrographic analysis report (including microscopy). ***See August 14, 2020 Petrographic Analysis prepared by RJ Lee Group.***

c. Explain the proposed monitoring program (Section 3). ***See attached NOA Supplement – Addendum A – Asbestos Monitoring & Mitigation Plan issued April 10, 2025.***

d. Explain the engineering controls to be utilized to control fugitive emissions (Section 4). ***See attached NOA Supplement – Addendum A – Asbestos Monitoring & Mitigation Plan (AMMP) issued April 10, 2025.***

e. Explain how NOA-containing material will be handled (Section 5). ***See attached NOA Supplement – Addendum B – Mineral Identification & Management Guide (MIMG) issued April 10, 2025.***

2. Proximity Assessment [§§ 77.130, 77.455, 77.575]

a. Indicate if any of the following are adjacent to the permit area. Supply distances or range of distance, and orientation to prevailing wind direction.

- Residential areas
- Commercial areas
- Schools, parks, churches, or other community areas

If none are adjacent, indicate the approximate closest distance of the nearest area listed above. (Data may be presented as a table.)

b. Provide a map highlighting this information. The map should show at least the area within 1000 feet of the permit area and include relevant details from subsequent sections as applicable.

See attached Rock Hill Proximity Assessment Map as prepared by EARTHRES on April 29, 2025.

3. Inspection and Testing Plan [§§ 77.130, 77.352, 77.455, 77.575]

a. For mine sites with potential or confirmed presence of NOA, attach the monitoring, testing, and inspection plans regarding NOA during operations and reclamation.

b. Discuss the methodology to be used for the following measures, as applicable:

- Rock sampling
- Settled dust sampling
- Property boundary air sampling
- Discharge water sampling

See attached NOA Supplement – Addendum A – Asbestos Monitoring & Mitigation Plan (AMMP) issued April 10, 2025.

4. Mitigation Plan [§§ 77.130, 77.596, 77.631]

Describe the NOA mitigation plan to be implemented to minimize or control the possible liberation/migration of NOA into the atmosphere. Specify all Best Management Practices and Engineering Controls to be used.

See attached NOA Supplement – Addendum A – Asbestos Monitoring & Mitigation Plan (AMMP) issued April 10, 2025.

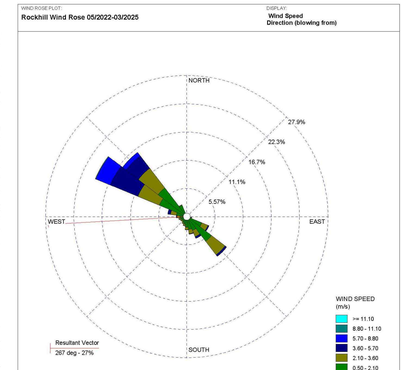
5. NOA-containing Material Handling Plan [§§ 77.456]

a. Provide a detailed plan for management of NOA-containing material.

b. Discuss the activities regarding stabilization and fate of NOA-containing material or potential NOA-containing material (i.e. plant and/or pond fines). Describe proposed inspection and documentation plans for this material.

See attached NOA Supplement – Addendum B – Mineral Identification & Management Guide (MIMG) issued April 10, 2025.

PROXIMITY ASSESSMENT MAP



SITE WIND ROSE PLOT

ADJACENT RESIDENTIAL AREAS

PROPERTY KEY NO.	DISTANCE (FT.)	DIRECTION FROM SITE	OWNER	ADDRESS
5	429	Southeast	Andrew T. Wright	1470 W. Rock Road, Perkasie, PA 18944
14	89	Northwest	Michael J. Wilder	29 C. Rockhill Road, Quakertown, PA 18951
40	61	West	Ryan Gottshall	2201 Rock Hill Road, Sellersville, PA 18960

ADJACENT COMMERCIAL AREAS

PROPERTY KEY NO.	DISTANCE (FT.)	DIRECTION FROM SITE	OWNER	ADDRESS
33	36	West	Rock Hill Materials Co.	2035 Rockhill Road, Sellersville, PA 18960

NEAREST COMMUNITY AREAS

PROPERTY KEY NO.	DISTANCE (FT.)	DIRECTION FROM SITE	OWNER	ADDRESS
N/A	1480	Northwest	Commonwealth of PA	Muskrat Road (State Park)
N/A	2521	Northwest	Bethel Baptist Church	754 E. Rockhill Road, Sellersville, PA 18960

LEGEND

- EXISTING GRADE CONTOUR (2' INTERVAL)
- EXISTING SMP BOUNDARY
- LIMIT OF MINING
- 1,000' OFFSET BOUNDARY
- PROPERTY BOUNDARY
- LIMIT OF HEIDELBERG DRONE SURVEY
- EXISTING BUILDING – RESIDENTIAL
- PROPERTY ID

NOTES:

1. EXISTING GRADE TOPOGRAPHY COMPILED BY PAMAP PROGRAM, PA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, BUREAU OF TOPOGRAPHIC AND GEOLOGIC SURVEY, DATED JUNE 2010.
2. TOPOGRAPHY WITHIN HEIDELBERG SURVEY AREA WAS SURVEYED BY HEIDELBERG MATERIALS PERSONNEL ON DECEMBER 7, 2020.
3. EXISTING PERMIT INFORMATION INCLUDING PERMIT BOUNDARY, AND MINING LIMIT ARE REFERENCED TO THE PERMIT DRAWING "MINING PLAN, SHEET 3 OF 6" PREPARED BY SKELLY AND LOY, DATED MARCH 18, 1980.
4. HEIDELBERG PROPERTY BOUNDARY PROVIDED BY VAN CLEEF ENGINEERING ASSOCIATES VIA MAP TITLED "PLAT OF SURVEY OF LANDS OF GENERAL CRUSHED STONE", PREPARED BY ORANGEVILLE SURVEYING CONSULTANTS, INC., DATED MAY 7, 2001.
5. ADJACENT PARCEL BOUNDARIES ARE REFERENCED TO THE BUCKS COUNTY GIS RECORDS.
6. PROPERTY OWNERSHIP INFORMATION IS REFERENCED TO MODULE 5 OF THE PERMIT APPLICATION.
7. SITE WIND ROWS PLOT REFERENCED FROM DATA COLLECTED BY HEIDELBERG MATERIALS FROM MAY 9, 2022 THROUGH MARCH 12, 2025.
8. ADJACENT PARCELS NOT LISTED AS RESIDENTIAL, COMMERCIAL OR COMMUNITY AREAS WERE IDENTIFIED AS UNDEVELOPED VEGETATED/FORESTED AREA.

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

NO.	DATE	BY	REVISIONS

COMMONWEALTH OF PENNSYLVANIA — PROFESSIONAL — TERRY W. SCHMIDT — Engineer — 082465 — 12/31/2025

TERRY W. SCHMIDT, P.E.
LICENSE NO. PE082465E

PROJECT SITE:
HEIDELBERG MATERIALS NORTHEAST LLC
SMP NO. 7974SM1
EAST ROCKHILL TOWNSHIP, BUCKS COUNTY
PENNSYLVANIA

PREPARED FOR: Heidelberg Materials

PREPARED BY:
EARTHRES
a Division of RESPEC
www.earthres.com

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809 Corporate Woods Pkwy
Morgantown, WV 26505

PROXIMITY ASSESSMENT MAP

HEIDELBERG MATERIALS NORTHEAST LLC
ROCK HILL QUARRY OPERATION

DRAWN BY:	CHECKED BY:
JNK	MSW
DATE: 4/29/2025	PROJECT NO: 061003.052
DRAWING NUMBER: D–001	SHEET 1 OF 1

F:\PROJECTS\Hanson\061003.052 Rock Hill Permit Update\CAD\Drawings\Rev 12 (NPDES Permit Modification RTC 2025)\Proximity Assessment Map.dwg Layout: E SIZE User: jungtaek.kim 05/08/2025 15:36

NOA SUPPLEMENT ADDENDUM A

MINERAL IDENTIFICATION & MANAGEMENT GUIDE

MINERAL IDENTIFICATION & MANAGEMENT GUIDE

PURPOSE

This Mineral Identification and Management Guide (hereinafter "Guide") memorializes protocols and procedures implemented by Heidelberg Materials Northeast LLC ("Heidelberg") to assess whether "protocol minerals" as defined below are present at the Rock Hill Quarry ("Quarry") to avoid the processing of such materials in a manner that may release undesirable mineral fibers.

Some igneous and metamorphic rock materials have the potential to contain, as minor constituents, asbestiform minerals. Six (6) of these asbestiform minerals are currently regulated as potentially containing asbestos fiber by USEPA, MSHA, and OSHA. The mineralogical properties of asbestos fiber and regulated mineral fibers covered by this Guide are hereinafter referred to as "protocol minerals". Materials suspected of containing protocol minerals are referred to as "suspect material."

This document is solely a Guide and is not intended and shall not give rise to new legal obligations or standards. The procedures established in this Guide may be varied in light of operational demands or restrictions. This Guide shall not alter any applicable environmental, health or safety standards. All such standards shall be followed.

SCOPE

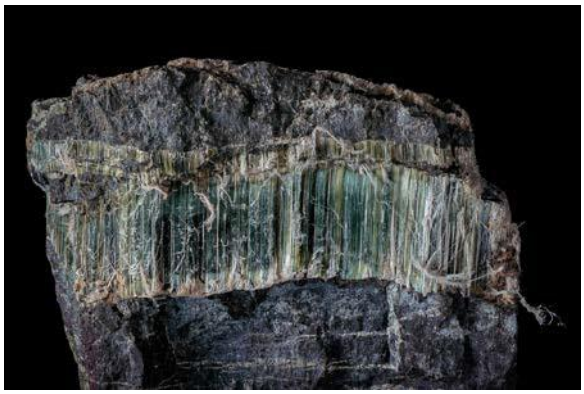
This Guide is applicable to all Heidelberg operations at the Quarry and outlines responsibilities of the Quarry personnel with regard to inspecting and handling of suspect material, sampling protocol, and internal notifications.

POLICY

1. MINE PLANNING DEPARTMENT RESPONSIBILITIES
   - 1.1. PERIODIC ON-SITE GEOLOGIC INSPECTIONS
     - 1.1.1. A person with a degree in geology and experience with meta-volcanic rock formations, and/or holding related professional certifications (i.e. a Pennsylvania Registered Professional Geologist) ("Geologist") shall inspect the active working faces on the operating levels of the Quarry.
     - 1.1.2. Heidelberg safety standards regarding distance off-sets from highwalls and crest-of-face will be followed during the inspections.
     - 1.1.3. Inspection Frequency Target (subject to modification): inspections of the Quarry will occur annually or at such periods related to the mining activity established by the geologist and other professional staff.
   - 1.2. TRAINING OF DESIGNATED SITE PERSONNEL ON RECOGNITION OF SUSPECT MATERIALS
     - 1.2.1. Heidelberg shall identify and designate specific personnel to be responsible for recognition of suspect materials ("Designated Site Personnel"). A list of personnel serving as Designated Site Personnel shall be displayed at the facility.
     - 1.2.2. Heidelberg shall provide training on the recognition of suspect materials to the Designated Site Personnel. If there is a change in Designated Site Personnel, new Designated Site Personnel will be trained before commencement of their responsibilities under this Guide. Refresher training for all Designated Site Personnel will be completed on an annual basis.
     - 1.2.3. Training will be recorded on a form utilized by Heidelberg and signed by both the trainer and trainee. The original form will be submitted to appropriate Heidelberg personnel who will file the hard copy with the employee training records.
     - 1.2.4. It is the responsibility of the Quarry personnel to notify both the Mine Planning and Corporate EHS Departments of changes in Designated Site Personnel at that location.

1.3. SUSPECT MATERIAL IDENTIFICATION/CONFIRMATION

1.3.1. Routine Inspections. As described in 2.1 below, Designated Site Personnel shall conduct routine inspections during Quarry operations, including inspecting the shot rock pile (muck perimeter) after every blast and once/week thereafter during operations, until the shot rock pile is depleted. Suspect material will be identified based on criteria defined by the Geologist, including the following: any minerals identified in the rock that appear to be present in bundles of long, thin, flexible fibers. These minerals may appear in several different forms in the quarry, including bundles of parallel fibers, radiating fibers, matted masses of individual fibers, or in a needle-like formation. The photos below depict the forms of suspect material that might be found at quarries where asbestos may exists.



1.3.2. Method to identify/confirm suspect material: If Designated Site Personnel identify suspect material, they will follow the reporting protocol described in Section 2.2 and either:

1.3.2.1. Arrange for disposal of the material according to Section 2.4; or

1.3.2.2. With the involvement and oversight of a Geologist, determine by visual inspection and laboratory testing that the material does or does not contain asbestos.

Note: Active mining within a delineated affected area where suspect material has been identified will cease and will only resume after the “all-clear” is given by the Geologist or the Corporate EHS Manager.

1.3.3. Heidelberg staff working within the area of suspect materials shall comply with all applicable EHS protocols until the materials are either (a) disposed and covered at their final location or (b) determined to not contain protocol minerals pursuant to the above- described procedures.

2. PLANT RESPONSIBILITIES

2.1. Routine on-site inspection

2.1.1. A Designated Site Personnel member shall inspect the shot rock pile (muck perimeter) after every blast and once/week thereafter during operations, until the shot rock pile is depleted.

2.1.2. The inspection must be documented on the designated report form and is to be maintained on-site for review.

2.1.3. Heidelberg safety standards regarding distance off-sets from highwalls and crest-of-face will be followed during the inspections.

2.1.4. Using a hand-held GPS unit or other method, coordinates of the blast shall be obtained and provided to Mine Planning for mapping.

2.2. Reporting protocol when suspect materials are identified by plant personnel

2.2.1. If suspect material is identified, the contact chain will be as follows (unless varied on a site-to-site basis):

2.2.1.1. Initial person observing suspect material will notify a member of the Designated Site Personnel.

2.2.1.2. A member of the Designated Site Personnel will notify each of the following:

2.2.1.2.1. Quarry Operations Manager

2.2.1.2.2. Area Environmental Manager

2.2.1.2.3. Mine Permitting Manager

2.3. Action protocol when suspect materials are identified by plant personnel

2.3.1. Isolate and cease operations in the affected area as delineated by the Designated Site Personnel and/or Geologist. If the suspect material is located within an active mining area, relocate the mobile equipment fleet and isolate the area. Traffic cones or other means shall be placed to restrict access to the designated area.

2.3.2. Follow the procedures in Section 1.4.2 to either dispose of the material pursuant to Section 2.4 or confirm that the material does not contain asbestos.

2.3.3. To the extent the Geologist is called on to perform a visual inspection of suspect material pursuant to Section 1.4.2, Designated Site Personnel may collect a sample of the material and provide to the Geologist or the Geologist may examine the material in place.

2.3.4. The Heidelberg Respiratory Protection Program shall be followed at all times when handling suspect materials.

2.3.5. Sample collection protocol and approved container.

2.3.5.1. When handling suspect material, wear respirators approved by the Heidelberg Respiratory Protection Program.

2.3.5.2. Wet the material to be handled prior to any disturbance. It is recommended that a spray bottle containing tap water be utilized for this task. Other equally effective means of wetting the material is also acceptable.

2.3.5.3. Obtain representative small (hand-sized) samples of the material and place in plastic bags provided and approved by the Geologist or Corporate EHS Manager. The sample bag will be a minimum of 6 mil plastic with a zipper for closure. After closing the bag, fold once and use duct tape to seal fold. When shipping material, double bag prior to placing in the shipping container.

2.3.5.4. Label the bag as “Suspect Material”, with site name, date sample collected and a description of the location being sampled.

2.3.6. Collected Samples:
2.3.6.1. The bagged samples should then be placed and stored in a five (5) gallon plastic bucket to be stored in an area designated by the Geologist.
2.3.6.2. Sample material shall be disposed of in a manner similar to shot rock once the Geologist or Corporate EHS Manager determines it is no longer required.
2.3.6.3. If further inspection is necessary, overnight sample to laboratory for inspection.
2.3.7. Heidelberg safety standards regarding distance off-sets from highwalls and crest-of-face will be followed during the inspections.

2.4. Disposition of suspect material
2.4.1. Shot rock – following all required protocols as defined by this policy:
2.4.1.1. The Geologist shall delineate the area of shot rock which is to be disposed of.
2.4.1.2. The material to be moved shall be wetted prior to disturbance.
2.4.1.3. Plant personnel, using heavy equipment such as a front end loader and haul truck shall dispose of the material in an area designated by the Geologist and within requirements of plant permits.
2.4.1.4. Global Positioning System (GPS) coordinates will be obtained for the location of disposal of suspect material and provided to Mine Planning for recording on the master mine map. The Geologist may request additional information to adequately record the disposal location on the map.
2.4.1.5. The disposal location should be posted with conspicuous signs.
2.4.1.6. The suspect material shall be covered with other materials (i.e. overburden/cap rock) in the area of disposition.

3. <u>EHS Department Activity</u>
3.1. Interface with Geologist
3.1.1. The Geologist will inform the Corporate EHS Manager and Legal Department of the completion of the routine quarry reviews or of any notifications received from the plants as to the observation of suspect materials.
3.2. Training of site EHS personnel in Industrial Hygiene sampling methodology
3.2.1. Personnel completing the air sampling shall have completed at a minimum, the NSSGA/MSHA Dust and Noise Workshop or its equivalent.
3.2.2. Additional training may be provided by the Corporate EHS Manager or a selected consultant.
3.3. Monitoring
3.3.1. The Quarry will be responsible for conducting any necessary monitoring during the handling of the suspect materials.
3.3.2. The Quarry will retain records relating to the material handling in accordance with the EHS program policies.

RESPONSIBILITY

It shall be the responsibility of the Quarry to ensure that training, procedures, and records retention are being completed in accordance with this Guide.

NOA SUPPLEMENT ADDENDUM B

ASBESTOS MONITORING & MITIGATION PLAN

ASBESTOS MONITORING & MITIGATION PLAN

1. Introduction

This Asbestos Monitoring and Mitigation Plan ("Plan") has been prepared by Heidelberg Materials Northeast LLC (“Heidelberg“) to establish asbestos monitoring and mitigation protocols for Heidelberg’s non-metallic mineral quarry located near 2055 North Rockhill Road, Sellersville, PA 18960 in Bucks County. The primary business of the site is to quarry a diabase rock that can then be crushed and sold as construction aggregate.

2. Description of Facility

The Rock Hill Quarry (“Quarry”) is located in East Rockhill Township, Bucks County, PA. The site includes 109.8 acres authorized under Large Noncoal Surface Mine Permit Number 7974SM1. The Quarry consists of a quarry pit, stockpile storage areas, and related erosion and sediment/stormwater control features (e.g., sediment ponds and traps, collection ditches, and other best management practice features). Heidelberg will extract diabase at the Quarry to produce crushed aggregate products for customers. Heidelberg, or a subcontractor, will obtain the necessary permits prior to operation of any crushing equipment.

3. Perimeter Air Monitoring

To monitor for potential airborne asbestos exposures at or near the site property lines, Heidelberg will conduct perimeter air monitoring during operations in accordance with the protocols set forth in this Section 3.

3.1 Perimeter Air Sampling Locations and Wind Monitoring

There are a number of locations along the perimeter of the property at which air samplers will be located. These locations are evenly spaced around the site perimeter to encompass both upwind and downwind locations to ensure sampling is not affected by possible shifting winds. The same locations will be utilized during mining activity on site. The general locations of the samplers have been selected based on a number of factors including existing equipment operating locations, prevailing winds at the Quarry, and site-specific activities connected with quarrying and processing of aggregate products.

Based on the data collected from the weather station installed at the Quarry on May 9, 2022, the following, the Wind Rose plot indicates winds generally blow from the west / northwest (Figure 1).

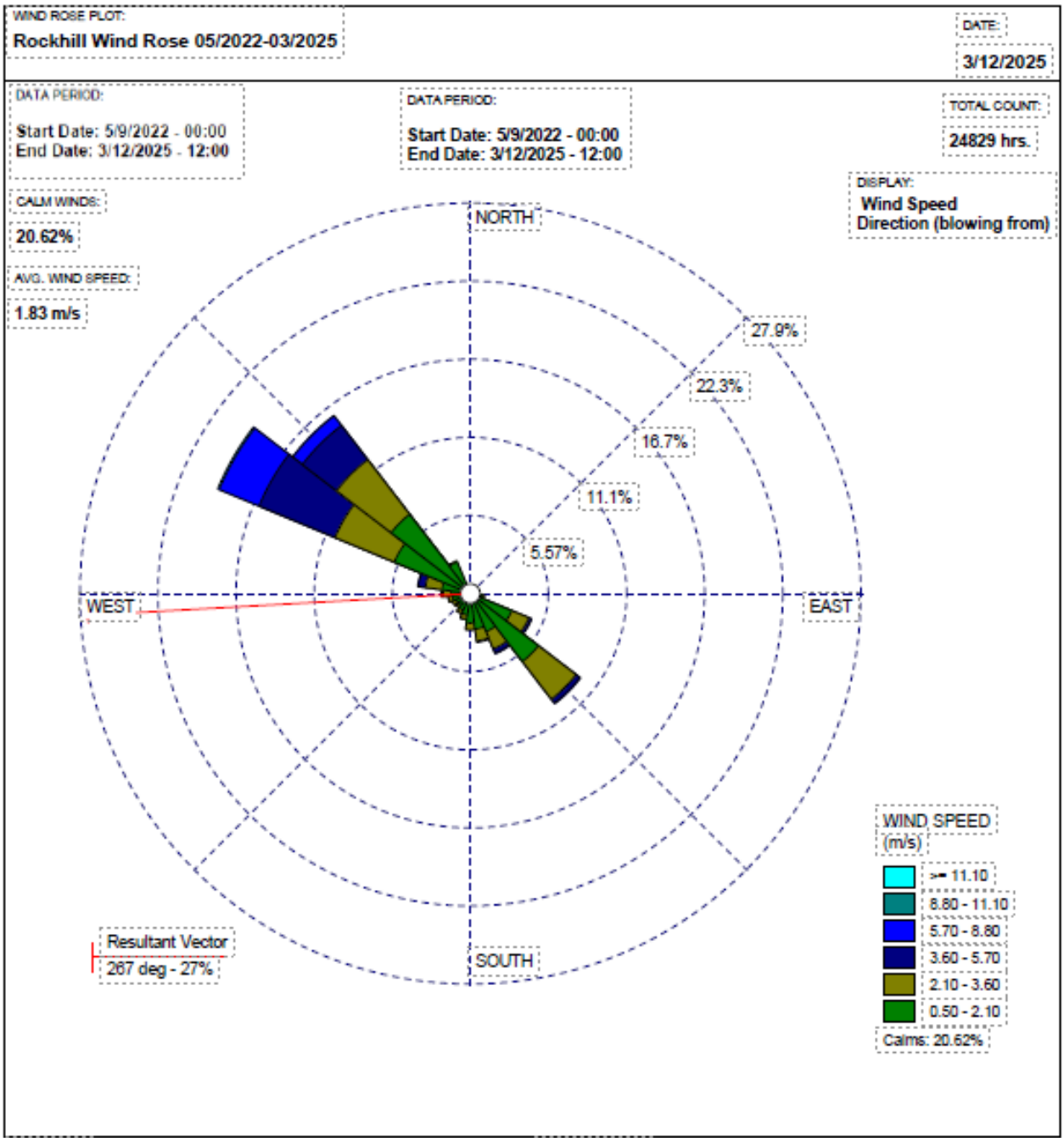


Figure 1

Wind rose diagram displaying wind direction and speed data – Rock Hill Quarry Weather Station

Based on this, eight (8) proposed sampling locations are shown in Figure 2. The sampling locations are intended to be fixed; however, the selected locations may change over time based on changes in operations.

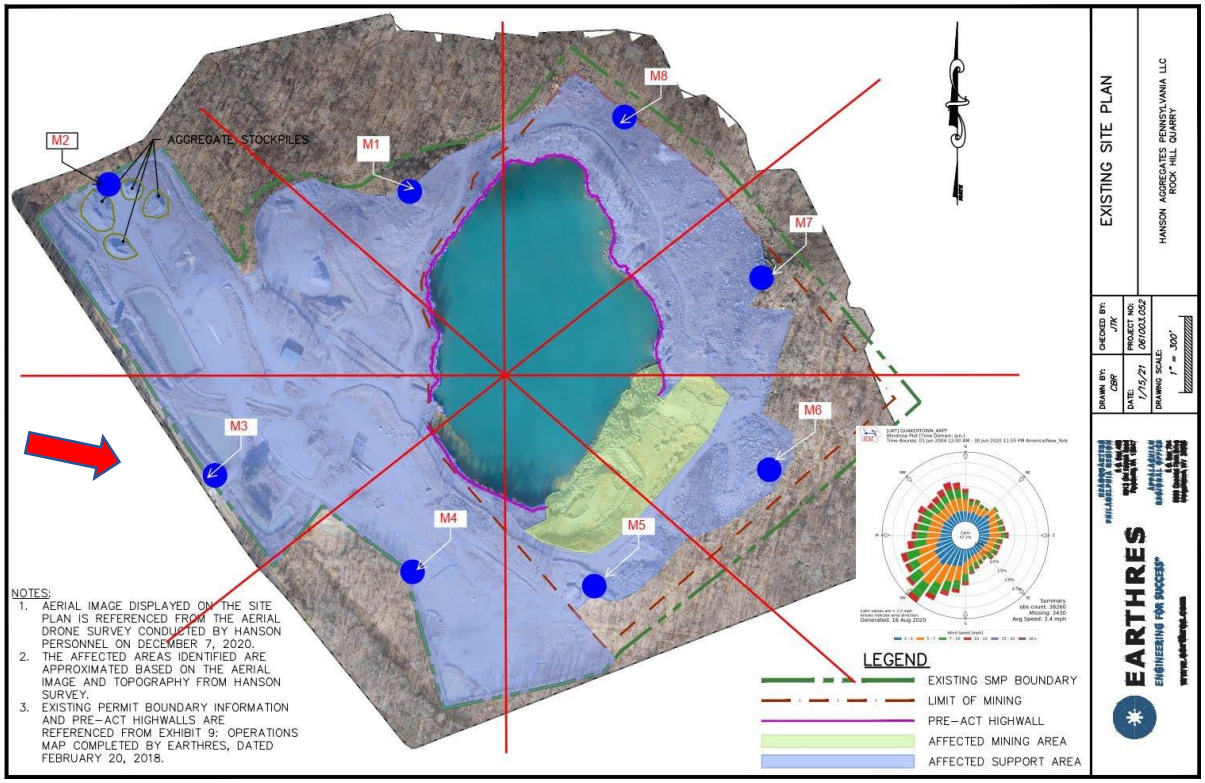


Figure 2. Proposed locations of up to 8 samplers along the general perimeter of the Heidelberg Materials property at Rockhill, PA. The red arrow indicates the approximate direction in which the wind typically blows.

Unless otherwise approved by the PADEP, wind direction, wind speed, and precipitation will be monitored and recorded continuously at the Site each operating day using the automated weather station permanently installed at the Quarry. The recorded monitoring data will be available via web interface and digital records will be maintained by Heidelberg for a minimum of three (3) years.

If the automated weather station stops monitoring or recording the wind speed or wind direction as a result of a malfunction, within one (1) business day of discovery of the malfunction, Heidelberg will take steps to have the automated weather station repaired or replaced. If the weather station becomes inoperable, Heidelberg will endeavor to replace it within one (1) month unless otherwise approved in writing by the Department. If the automated weather station malfunctions or becomes inoperable, Heidelberg will collect wind speed and wind direction data from the nearby NOAA station at the Quakertown Airport to meet the requirements of this section until the malfunction is corrected or the on-Site weather station is replaced. (https://mesonet.agron.iastate.edu/sites/windrose.phtml?station=UKT&network=PA_ASOS)

If significant wind direction changes during a sampling event, the time and change in direction will be documented. If it is determined that the wind direction has changed, creating a situation where the designated downwind samples are no longer downwind of the active operational areas, this fact will be noted on the sample data forms and the appropriate “new” downwind samples will be identified.

In the unlikely event that, based on professional judgment and knowledge of offsite concerns, sampling areas need to be adjusted between perimeter sampling events to provide more

representative data and consideration of spatial conditions, all adjustments will be documented properly to show the change and the reason for the change.

3.2 Field Sample Collection Methodology

The perimeter air samples will be collected at the selected locations as indicated in Figure 2 above and will be collected using low flow air sampling pumps. The perimeter air sampling pumps used for the sample collection will be the Escort Elf air pumps by Zefon International (or equivalent).

Consistent with the analytical methods discussed in Section 3.4, each perimeter pump will be affixed with a cassette (and cowl) that contains either a 25-millimeter (mm) diameter Mixed Cellulose Ester (MCE) filter with a maximum pore size of 0.45 micrometer (µm) or a 25 mm diameter capillary pore polycarbonate filter of maximum pore size 0.4 µm. The cassette and cowl shall be fully conductive to reduce particle loss to the sides of the cassette due to electrostatic attraction. All perimeter air monitoring samples from the eight (8) air monitoring sample locations will be collected at an elevation of 4-6 ft. above the ground surface. The sampling cassette and filter will be affixed to a sampling post station or tripod that will be used to set the sampling height. At least two (2) field blanks (or 10% of the total samples, whichever is greater) will be collected for each sampling event.

Each perimeter air sampling pump will be operated at approximately one (1) to four (4) liters per minute (lpm). Sampling times will vary; however, all sample durations will be established to assure an adequate sample volume to achieve an analytical sensitivity of 0.001 structures per cubic centimeter (s/cc). Pump calibration is to be performed at the beginning and rechecked at the end of a sampling event with a rotameter (DRI-CAL or Digical primary calibrator or equivalent) using the same type of cassette on which the sample is collected.

The sample collector will record the pump serial number, sample number, initial flow rate, sample start/end times, sample locations, and final flow rate on the Field Data Sheets (see Attachment 1 – Field Sampling Documents). Sampling Field Data Sheets will be used to record sample collection information, field measurement and field observations obtained during each sampling event. Information in the datasheets will include, at a minimum, the following:

- Location of the sample, site activities being conducted during sample collection;
- Date and time of collection;
- Sampling flow rate and volume;
- Description of temperature, wind direction, wind speed and general weather conditions; and
- The unique sample identification number for each air sample.

Field notes will also be recorded during all sampling events. The notes will include general information, mining activity description, weather conditions, wind direction, etc. (see Attachment 1 – Field Sampling Documents for examples of both the Field Data Sheets and the Field Notes). Field notes will include a site map with the sample locations for each sampling event clearly marked on the map, and references to photographs as needed to document site sampling activities. Any non-routine site activities will also be noted in the field notes (e.g., lawn mowing, grading, etc.).

Data sheets and field notes will be completed, signed, and dated by the field technician.

Photographs of Air Sampling Activities

Photographs will be taken during selected air sampling activities. The photographs will be used to provide backup documentation of sampling activities. A log of the photographs will be recorded and will include the sampling activity and approximate location for each photograph.

Chain of Custody Records

Chain of custody procedures will be used to maintain and document sample collection and possession. During the sampling process, a laboratory Asbestos Chain-of-Custody form provided by the Laboratory will be completed (see Attachment 1 – Field Sampling Documents). The completed Chain-of-Custody Record will accompany all samples and be signed as required as each sample package recipient receives and relinquishes possession of the sample package.

Sample Packaging and Shipment

The air sample filter cassettes will be carefully packaged and delivered to the analytical laboratory using standard practices. Plastic bags and other acceptable packaging containers will be used for sample shipment and convenience. Shipment tracking information will be provided for each sample shipment.

Weather and Wind Direction Data

During quarrying operations and all field monitoring events, wind speed, wind direction, and precipitation will be monitored from the onsite permanent weather station. The data will be collected as referenced in Section 3.1 and will be reviewed prior to and following each sampling event.

3.3 Air Sampling Frequency

Daily activities and hours of operation may vary at the Quarry. Heidelberg will coordinate and conduct sampling events to be representative of authorized mining operations in any given month. Sampling will coincide with facility operations and will not be conducted on days when the Quarry is closed. Under this AMMP, air sampling frequency is separated into two (2) categories – “consistent operations“ and “non-consistent operations.“ For the purposes of this section, “consistent operation“ will be when Heidelberg, or a subcontractor, receives an Air Quality State Only Operating Permit authorizing crushing activities at the site and regular processing of aggregate materials occurs. “Non-consistent operations“ represents authorized Quarry operations performed when Heidelberg, or a subcontractor, are performing activites that do not require an Air Quality State Only Operating Permit.

3.3.1 Air Sampling During Non-Consistent Operation

During any time when consistent operations are not occurring (i.e., during “non-consistent operations“), for all existing sample points (those identified in Section 3.1 of this Plan), air samples will be collected a maximum of two (2) times per month during operations. If only one (1) day of activity occurs in any given month, only one (1) round of air samples will be collected.

3.3.2 Air Sampling During Consistent Operation

- For all existing sample points (those identified in section 3.1 of this Plan), samples will be collected two (2) times per month during consistent operations for an initial three (3) month period.

- Based on the initial three (3) months of sampling, for all sample points with a countable amphibole structure concentration of less than or equal to 0.01 s/cc, air sampling frequency will then be reduced to a quarterly basis if consistent operations were conducted during that period.

- For any new points not already identified in this Plan, monitoring will be conducted two (2) times per month for three (3) consecutive months during consistent operations, and then reduced to quarterly if there are no countable amphibole structure concentrations greater than 0.01 s/cc.

- Existing and new sampling points being monitored on a quarterly basis may be reduced to an annual (once per 12 months) basis if the quarterly results collected during consistent operations are at or below the 0.01 s/cc for four (4) consecutive quarters.

- Any air sample location with a countable amphibole structure concentration greater than 0.01 s/cc (confirmed by TEM analysis), or any analytical result greater than 0.01 s/cc in the previous three (3) months, will be monitored on a weekly basis pursuant to 3.6.2(a).

Heidelberg shall keep a log of quarry activities that occur during each sampling event.

Heidelberg or its designated contractor will notify PADEP at least two (2) working days prior to initiating each air sampling event conducted pursuant to this Plan so that PADEP representatives have an opportunity to collect samples at the same locations during the same time period. Heidelberg or its designated contractor will facilitate PADEP's sample collection efforts by providing access to sampling locations and sufficient time and space to sample. Once regular monitoring is underway, the Department will be notified of any unusual changes in the sampling via electronic mail. In addition, PADEP will be notified as soon as possible if any sampling event has been cancelled along with the reason for the cancellation.

3.4 Analytical Methods

The analytical methods and laboratory analysis for perimeter monitoring of asbestos as required by this plan shall be those described in ISO 10312-2019-10 "Ambient Air – Determination of Asbestos Fibers – Direct Transfer Transmission Electron Microscopy Method", as modified by Page C-3 of EPA's "OSWER Directive #9200.0-68, September 2008, Framework For Investigating Asbestos-Contaminated Superfund Sites", which states that "*Under the ISO method, two specific counting schemes are detailed. The first scheme is more general and allows for the counting of fibers that are 0.5 µm in length or greater, and have aspect ratios of 5:1 or greater. In routine practice, TEM is able to resolve fibers down to approximately 0.1 µm in width, as compared to the resolution for routine PCM (0.25 µm). Therefore, short thin fibers that would not be detected using PCM will be detected*

using TEM under the general counting scheme. EPA recommends modification of the aspect ratio to 3:1 for this counting scheme."

The perimeter air monitoring corrective action level to be used with this Plan is 0.01 amphibole s/cc. All amphiboles meeting the criteria listed in the above paragraph should be counted as structures.

If TEM analysis confirms countable amphibole structure concentrations in excess of 0.01 s/cc in any sample, then the reporting and corrective action requirements set forth in Section 3.6 are triggered.

If any air sampling filters are determined to be overloaded with particulate and cannot be read by ISO 10312, Heidelberg shall report this to DEP within seven (7) days of the determination, and shall propose corrective action for either re-analyzing the filters with another method, or obtaining replacement samples capable of being read via ISO 10312, within seven (7) days of the report to DEP.

Analytical Laboratory

All samples will be analyzed by an analytical laboratory selected from the list of asbestos analytical laboratories that are part of the National Voluntary Laboratory Approval Program (NVLAP) and are accredited by the American Industrial Hygiene Association (AIHA) and by the Department of Environmental Protection – Bureau of Laboratories. Any accredited laboratory that meets the requirements listed above may be used for sample analysis.

Quality Control

A quality control (QC) program will be implemented to assure data quality. The field program includes the use of blanks and duplicate samples. Should any sample fail at a particular location, that sample at that location will be resampled within two (2) weeks.

Field Blanks

At least two (2) field blanks (or 10% of the total number of samples collected, whichever is greater) will be submitted with each set of samples. A field blank is a new sampling cassette that is opened on site during the sampling period, kept uncovered for at least 30 seconds, and then is closed and sealed for transport to the laboratory. The purpose of the field blank is to document the possible contamination of the filter media that could occur as a result of handling the samples in the field.

Duplicate Samples

Duplicate samples may be collected if directed by Heidelberg or DEP to evaluate the reproducibility of sampling and analysis. Duplicate samples will be collected, stored and transported in the same manner as the actual samples. A separate number will be assigned to each duplicate, and all duplicates will be submitted blind to the laboratory. For this monitoring program, duplicate sampling will be conducted through the collection of co-located samples collected during the same sampling interval.

Field Equipment

The following equipment will be utilized for this sampling:

- Air sampling pumps (personal or low volume pumps).
- Air sample filter cassettes with filters (25 mm, 0.45 µm pore, MCE or 25 mm, 0.4 µm, capillary pore polycarbonate).
- Air pump calibration equipment.
- Quart and gallon size resealable bags.
- Sample transport containers and packing material.
- Additional supplies as needed including health and safety equipment.
- Heidelberg Permanent Weather Station.

3.5 Recordkeeping and Reporting

All records and documents related to the airborne asbestos monitoring program will be maintained by Heidelberg for at least five (5) years and will be made readily available to PADEP upon request. Field Data Sheets and Field Notes will be completed, signed, and dated by the recorder. All logs will be written with waterproof ink. Corrections to data entered will be made by crossing out the error with a single horizontal line, initialing and dating the correction, and entering the correct information. Crossed-out information shall be readable. Photographs will be taken during selected air sampling activities. The photographs will be used to provide documentation of sample locations, site activities, etc. that are pertinent to the air monitoring task. A log of the photographs will be recorded and will include the sampling activity and approximate location for each photograph.

All laboratory reports and associated data sheets, as well as progress reports and other documentation related to perimeter air sampling, will be properly maintained for five (5) years. Copies of the reports will be submitted to DEP quarterly, within 90 days after the end of each quarter. All samples analyzed will be retained by the laboratory for at least one (1) year from the date of analysis to allow for follow-up testing should the need arise.

Perimeter air monitoring reports submitted to PADEP will include a summary of the analytical results for all samples collected and analyzed during the reporting period; copies of applicable chain of custody sheets and applicable field sampling logs; and a written report detailing any investigative actions or corrective measures that may have been taken during the reporting period in response to a result exceeding 0.01 s/cc.

Analytical reports provided to Heidelberg by the analytical laboratory will be sent to PADEP via email within 24 hours of receipt, whenever possible, but no later than 48 hours of receipt.

3.6 Corrective Actions

If TEM analysis confirms countable amphibole structure concentrations in greater than 0.01 s/cc in any sample, Heidelberg will undertake the following corrective measures:

1. Report the results immediately to the Heidelberg site manager and Operations Manager. Heidelberg will also notify the PADEP within 24 hours of receipt of the TEM analysis results.

2. Tiered Sampling Approach:
    a. During consistent operations, weekly sampling will be conducted at each point with a countable amphibole structure concentration greater than 0.01 s/cc until the sample results are at or below the threshold for four (4) consecutive weeks.
    b. After four (4) consecutive weekly samples at or below 0.01 s/cc, sampling will be reduced to monthly.
    c. After three (3) consecutive monthly samples are collected showing results at or below 0.01 s/cc, sampling will be reduced to quarterly.
    d. If any air sample has a countable amphibole structure concentration greater than 0.01 s/cc (confirmed by TEM analysis) during the sampling in 3.6.2(b) or 3.6.2(c) above, air sampling will return to weekly as provided in Section 3.6.2(a).

3. Investigate the potential cause of the results. The investigation will include at least the following elements:
    a. Review of operational activities that were occurring during sampling,
    b. Confirmation that dust suppression systems are fully operational, and
    c. Quality Assurance and Quality Control review of all sampling and laboratory equipment and procedures.

4. Heidelberg will take immediate corrective measures. These corrective measures may vary based on the location of the sample, and findings of the investigation. The investigation will begin as soon as the result is confirmed and will be completed in an expedited manner. The corrective actions may include investigation of the source of any fugitive dust, extra dust suppression measures, cleanup, repairs or modifications to systems and controls, or temporary cessation of operations.

5. In any month where air sampling occurs as set forth in Section 3.6.2, a report of air sampling results shall be submitted to PADEP. The report shall be submitted within seven (7) calendar days of receipt of the TEM analysis results for all samples collected during the month and shall include a plan and schedule of steps that have been, or will be, taken to identify and mitigate the source of the fugitive dust. This written report should also include the results of the most recent EPA Method 100.1 water sampling described in Section 4.

6. Heidelberg will record the results and all corrective measures taken at the site in a permanent written log.

4. Dust Suppression Water Source Monitoring

On an annual basis, unless otherwise approved in writing by PADEP, Heidelberg will collect a sample from the dust suppression water source (water in Quarry pit) for asbestos analysis. This sample will be collected and analyzed in accordance with EPA Method 100.1, Analytical Method for Determination of Asbestos Fibers in Water. The annual sample is being collected for characterization purposes only. Heidelberg will maintain records of annual EPA Method 100.1 water analyses for at least five (5) years and will make these records available to PADEP upon request. Furthermore, if perimeter air sampling triggers corrective action requirements in accordance with Section 3.6, then Heidelberg will submit the results of the most recent EPA method 100.1 analyses to PADEP in accordance with Section 3.6.

5. Asbestos Avoidance Measures

5.1 Mineral Identification and Management Guide

Heidelberg has established and implemented a Mineral Identification and Management Guide (MIMG). This guide defines the company's procedures to properly identify and manage any materials that meet the guide's definition of "Protocol Minerals." The Guide covers a number of topics, including the following:

- Mineral identification and mapping of suspect material location.
- Geologic field inspections by a trained geologist.
- Shot rock (muck) pile inspections for suspect minerals.
- Training requirements for key site personnel.
- Proper management and disposal of suspect materials if identified.
- Recordkeeping requirements.

In addition to implementation of the protocols set forth in the MIMG, Heidelberg will also conduct sampling and analysis of settled dust samples in accordance with the following procedures:

1. Once consistent operation resumes, Heidelberg will collect a minimum of one (1) settled dust composite sample per month from a sheltered location within the portable or fixed aggregate processing plant.
2. If necessary, samples will be prepared using disc pulverization (as in California Air Resources Board (CARB) Method 435, Determination of Asbestos Content of Serpentine Aggregate) in a manner that does not excessively pulverize the sample.
3. Samples will be analyzed by Polarized Light Microscopy (PLM) using CARB Method 435. All visible elongate mineral particles (EMPs) (those identified as asbestos fibers and cleavage fragments) with aspect ratios greater than 3:1 will be counted.
4. If PLM analysis does not detect asbestos fibers in the sample, the sample will be analyzed by TEM to verify results using EPA Method 600/R-93/116, Method for the Determination of Asbestos in Bulk Building Materials. All visible EMPs (those identified as asbestos fibers and cleavage fragments) with lengths greater than 0.5 µm and aspect ratios greater than 3:1 will be counted.

Heidelberg will report the results of these analyses to PADEP on a quarterly basis.

5.2 Emissions Mitigation Plan

Heidelberg implements a number of practices that are consistent with the industry standards and regulatory requirements in order to control emissions at the Rock Hill site. Potential sources of dust emissions at the site are listed below, as well as the practices utilized at Rock Hill to control them. Heidelberg will utilize these practices as described below to maintain compliance with 25 Pa. Code §123.2 and §123.1(c):

Vehicle Traffic:

Heidelberg will utilize a street sweeper to clean paved plant roads and public roadways near site entrances as needed. Heidelberg will maintain a log of the time and day when the street sweeper is used.

The site entrance is paved to reduce tracking and improve sweeping efficiency.

When operating, Heidelberg will conduct a daily visual inspection at the beginning and end of each day of operations for material tracked onto public roads. If site material has accumulated on a public road, Heidelberg will clean the road promptly. A camera will be installed to monitor the entrance of the quarry to allow the operator to observe any accumulated material.

Heidelberg will install a truck wash utilizing spray nozzles and pressurized water to remove loose or dusty material from loaded trucks leaving the site through the main gate. Prior to consistent operations resuming at the Quarry, Heidelberg will install a tire scrubbing gravel pad or utilize a water truck to spray off wheels of trucks leaving the site.

Trucks transporting materials off-site will be covered with tarps.

Heidelberg will operate and maintain a minimum of one (1) truck equipped with water sprays to control dust from roadways. A water truck will be equipped with a water cannon to spray hard-to-reach areas of stockpiles.

Posted vehicle speed limits on haul roads in quarry and stockpile areas to no more than 15 miles per hour.

Haul Roads:

Application of water or commercial dust suppressing liquids during dry or windy conditions and in winter months, as needed.

Roads are to be resurfaced/regraded as needed to maintain a clear and safe working surface and thereby reducing dust generation.

Stockpiles and material handling:

Limit the size and disturbance of stockpiles to the minimums necessary.

Storage piles will be wetted using water sprays as necessary to control emissions. Stock and working piles will be adequately wetted or controlled using dust palliatives or suppressants, wind berms, or breaks during the addition and removal of material.

If necessary, Heidelberg will apply surface binders to stockpiles of fines to control dust from areas that will be temporarily inactive and may be subject to wind erosion.

If necessary, Heidelberg will wet materials to be handled prior to loading tucks. The drop height will be minimized as safety permits. Trucks will be loaded on the leeward side of the storage pile.

Dust will be controlled with water sprays and/or dust collection systems in accordance with best available technology requirements on all conveyors/transfer points.

Heidelberg will ensure that material being excavated, crushed, screened, loaded, transferred or conveyed does not result in visible dust emissions exceeding 40 CFR Part 60, Subpart OOO limits for applicable sources.

Overburden will be wetted (if necessary) prior to movement or handling to minimize dust generation.

Wooded buffers and/or vegetated earthen berms surround the quarry. These buffers and berms within Heidelberg's control will remain in place for the life of the mining operation.

All efforts are to be made to limit stripping of overburden to the spring and winter months, and/or timed to be during or soon after precipitation events, when soil conditions are not conducive for the generation of large amounts of dust.

Crushing and Sizing Equipment:

Heidelberg will submit applicable air permit applications prior to installation of aggregate processing equipment. Air Pollution Control devices will be installed and operated according to PADEP Best Available Technology requirements, coupled with work practices, inspection, and source observation.

Shot rock and processed aggregate spillage will be addressed as needed to minimize creation of excessive amounts of dust and to maintain general housekeeping in the quarry. The frequency of cleaning up spillage will vary depending upon how much material is running through the plant and how much product is being produced, loaded, and sold on a given day.

Conveyors will have belt scrapers where necessary to keep belts clean and reduce the amount of spillage from the conveyors. As a general practice, conveyors will not be run empty for long time periods. If there are prolonged periods when no material is being conveyed, the belts will be turned off.

Drill Rigs:

On-board dust collection and/or water sprays on drill rigs will be used to limit dust generation.

A drill shroud will be utilized at the ground level to control fugitive emissions from drilling activities.

Blasting:

Prior to blasting, all drill cuttings will be removed from around the drill holes. The use of dust or screenings as stemming for blast holes will not be permitted. Coarse aggregate will be used for stemming.

To minimize the dust offsite migration, the blast area will be pre-wetted to minimize the release of surface dust and fines, scheduling blasts only under favorable meteorological conditions. In addition, smaller blasts will be utilized when possible.

All drilling activity will be conducted in accordance with the Department authorized Blast Plan.

Training and Inspections for Visual Emissions:

Key plant personnel will be trained to conduct visual observations for fugitive emissions as well as opacity readings on emissions sources to ensure they are operating properly.

Heidelberg will regularly conduct preventative maintenance of operational and dust collection equipment to ensure the timely replacement of worn components.

FIELD SAMPLING DOCUMENTS

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

Daily Field Notes

Project No.		Date	
Location			
Sampling Team		Other Personnel	

Field Notes

Prepared by: _____

350 Hochberg Road, Monroeville PA 15146 | P 724.325.1776 F 724.733.1799

WWW.RJLG.COM

AIR SAMPLE DATA SHEET

Date _____ Technician _____

Project # _____ Calibration # _____

Page _____ of _____

Barametric Pressure _____

Temperature _____
Humidity _____
Altitude _____

Start Time (Clock)	Stop Time (Clock)	Elapsed Time HR-MIN	Time Sampled Minutes	Flow Rate L/MIN (Start/Stop)	Volume Sampled Liters
Observations/Comments				Total Volume	

Assigned Sample # | Pump No.

Location | Height

Filter: ☐ PC ☐ MCE

Sample: ☐ Indoor ☐ Outdoor ☐ Personal SS#

Start Time (Clock)	Stop Time (Clock)	Elapsed Time HR-MIN	Time Sampled Minutes	Flow Rate L/MIN (Start/Stop)	Volume Sampled Liters
Observations/Comments				Total Volume	

Assigned Sample # | Pump No.

Location | Height

Filter: ☐ PC ☐ MCE

Sample: ☐ Indoor ☐ Outdoor ☐ Personal SS#

Start Time (Clock)	Stop Time (Clock)	Elapsed Time HR-MIN	Time Sampled Minutes	Flow Rate L/MIN (Start/Stop)	Volume Sampled Liters
Observations/Comments				Total Volume	

Assigned Sample # | Pump No.

Location | Height

Filter: ☐ PC ☐ MCE

Sample: ☐ Indoor ☐ Outdoor ☐ Personal SS#

Start Time (Clock)	Stop Time (Clock)	Elapsed Time HR-MIN	Time Sampled Minutes	Flow Rate L/MIN (Start/Stop)	Volume Sampled Liters
Observations/Comments				Total Volume	

Assigned Sample # | Pump No.

Location | Height

Filter: ☐ PC ☐ MCE

Sample: ☐ Indoor ☐ Outdoor ☐ Personal SS#

Request for Environmental and IH Laboratory Analytical Services

ATTENTION TO:		Purchase Order No.:	Client Job No.:
Lab Use Only	Project No.: Client No:	**Date Results Needed**	Rush Charges Authorized ? (check one) ☐ YES ☐ NO
	Date Logged In: Logged In By:		
Report Results To	Name:	**Drinking Water Sample Only**	Sample Purpose: Information ☐ Regulatory ☐ Accreditation (please list below):
	Company:		System ID #:
	Address:		DOH Source #:
	City, State, Zip:		Multiple Sources #s:
	Phone: Fax:		Sample Purpose: A ☐ B ☐ Other ☐
	Email Results To:	**Chemistry Analysis Key**	**Preservation:** Unpres, H_2SO_4, 4°C, HCl, HNO_3, NaOH, Other, Na_2SO_4 **Matrix:** WW=Wastewater, GW=Groundwater, S=Soil/Sludge, E=Extract, SW=Surface Water, DW=Drinking Water, O=Oil, X=Other **Container:** P=Plastic, G=Glass, W=Wipe, A=Air (filter or tube)
Invoice To	Name: If a hard copy of invoice is needed, check here ☐		
	Company: Email:		
	Address:		
	City, State, Zip:		
	Phone: Fax:		
Special Instructions			

Client Sample ID	Sample Description	Sample Date	Sample Time Start	Sample Time Stop	Wipe Area / Air Volume	Sample Location (Please specify if NY state)	Analysis Requested						Pres. Upon Receipt (Y/N)	Preservation	Matrix	Container Type	pH	No. Containers

Chain of Custody	Relinquished By (Signature):	Date: Time:	**Chain of Custody**	Received By (Signature):	Date: Time:
	Relinquished By (Print Name):	Relinquished To:		Received By (Print Name):	Relinquished To:
	Company Name:	Method of Shipment:		Company Name:	Method of Shipment:
Chain of Custody	Relinquished By (Signature):	Date: Time:	**Chain of Custody**	Received By (Signature):	Date: Time:
	Relinquished By (Print Name):	Relinquished To:		Received By (Print Name):	Relinquished To:
	Company Name:	Method of Shipment:		Company Name:	Method of Shipment:

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Pasco, WA 99301

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509.544.6010 **Fax**

RJ LEE GROUP
DELIVERING SCIENTIFIC RESOLUTION

MODULE 10

OPERATIONAL INFORMATION

Module 10: Operational Information [§§77.452/77.456/77.563/77.564]

10.1 Equipment and Operation Plan

For each phase of mining, identify the type and method of mining; engineering techniques; major equipment to be used; starting point; and the anticipated sequence in which the phases are to be mined.

The Rock Hill Quarry is an existing mining operation. All mining activities will be conducted in a single phase. Bulldozers or track loaders, excavators and haul trucks will be used to remove and stockpile topsoil and overburden from the remaining mining area. Overburden will be hauled to and stored in the designated overburden material stockpile. The underlying rock will then be drilled and blasted to facilitate its removal. The shot rock will be excavated by front-end loader, track loader or excavator. The shot rock will then be transported by a haul truck to either a portable processing plant or a stationary processing plant that will be located within the Surface Mine Permit boundary. The processed rock will be staged for sale in stockpiles likely in the northwest support area of the mining permit boundary.

The following specific mining activities can only be performed following the completion of activity-based air sampling for each event:

1. ***Drilling***
2. ***Blasting***
3. ***Crushing; and***
4. ***Overburden removal***

Prior to any activity-based air sampling event, Heidelberg will provide the Department with a copy of its sampling plan for that activity. Heidelberg will also provide at least 48 hours advanced written notice to the Department prior to commencing any activity-based sampling event. Heidelberg will provide the Department a copy of all laboratory results of any activity-based sampling event within 24 hours of receipt of the results from a third-party laboratory.

10.2 Pit Configuration

a) Identify the maximum depth of mining and the elevation of the pit floor at the maximum depth of mining for each mining phase.

The maximum depth of mining is at pit floor elevation of 464 ft. MSL.

b) If mining consolidated rock, identify the maximum highwall height and the benching interval to include the distance between the benches measured vertically (i.e. height of the working face of the bench) and the width of the benches.

A maximum highwall height of 50 feet will be maintained, with the exception of the uppermost level where the maximum highwall height may reach 65 feet to account for variations in the surface topography. A minimum bench wiwdth of 25 feet will be maintained between operating levels at all times. A 71.4-foot bench (for 50 foot highwalls) or 92.8-foot bench (for 65 foot highwalls) will be utilized in areas where blast to grade reclamation is proposed. The proposed benching and final highwall positions are shown on Exhibit 9: Operations Map.

c) If mining consolidated rock and the reclamation plan is an alternative to approximate original contour involving restoration of the pit floor and final working face, identify the total acreage of pit floor and final graded slopes.

Reclamation of the proposed mining area will be an alternative to approximate original contour, as grades across the site will be lowered by as much as 330 feet. The final configuration will form a water impoundment area, which will be surrounded by unmanaged natural habitat. The final highwalls along the perimeter edge will be reduced by blasting to achieve the maximum 35-degree final slopes, merging the surrounding rim elevation with the slope. The proposed water impoundment will be approximately 39.1 acres, and the final graded perimeter slope areas total approximately 22.4 acres.

10.3 Existing Structures

Identify and describe the intended use of all existing structures or facilities to be used in connection with or to facilitate mineral removal activities. (Common existing structures include impoundments, stream crossing facilities, water obstructions and processing waste dams.)

Previous site activities included the installation of multiple structures. Existing structures include processing plant foundations, processing plant settling ponds, stormwater culverts and channels, and sediment ponds. These structures are to be maintained in place and utilized for the current operation. Structures will be rehabbed and/or upgraded as needed.

10.4 Overburden Piles

Provide a narrative plan for reclamation of overburden piles specifying the timing and extent of overburden piles returned to the pit and final grading of the overburden pile areas for blending into existing contours.

Overburden is proposed to be placed in the overburden storage area. Upon completion of mining activities, overburden will be returned to the mining area for use in final reclamation and for the establishment of vegetative cover. Material will be placed to achieve the desired reclamation subgrade elevation and to blend into the sloped highwalls (blast-to-grade) and existing perimeter grades. Site topsoil will then be spread over the overburden to provide a base for vegetation.

As piles and berms are removed, the areas impacted by topsoil/overburden storage will be scarified and prepared for final revegetation. Materials will be spread in advance of revegetation when it is a suitable time for planting as noted in Module 23.

10.5 Final Grade and Drainage

Identify the final grading and drainage pattern, including topographic contours on Exhibit 18 and a description of compaction and stabilization techniques. Provide cross-sections or a contour map showing permit line setback(s), final postmining slopes, postmining watertable and safety benches.

The final reclamation configuration for the Rock Hill Quarry will be a water impoundment and the post-mining land use will be unmanaged natural habitat. As mining reaches its vertical and horizontal extent, concurrent reclamation will be undertaken. The final perimeter highwalls will be reduced to a maximum 35-degree reclamation configuration by blasting to grade. Overburden materials will be placed over the shot rock. The surface will drain directly to the water-filled impoundment. Upon completion of all mining activities, an overflow channel will be installed along the existing haul road to convey the impoundment overflow to the unnamed tributary to Tohickon Creek. See Attachment 10.5 for overflow channel design calculations. The proposed reclamation grading, drainage pattern, and associated stormwater controls are presented on Exhibit 18: Land Use and Reclamation Map.

10.6 Reclamation Timetable

Provide a sequence of operations for the accomplishment of major stages in the reclamation plan demonstrating compliance with the concurrent reclamation requirements in 25 Pa Code 77.595. Include an estimated timetable for reclamation which is tied to the mining phases and the termination of mineral extraction.

Stages of reclamation will include: 1) a reduction of perimeter highwalls; 2) spreading and grading of overburden materials on slopes; 3) final grading; 4) revegetation; and 5) natural filling of the water impoundment. To the extent practical, reclamation will be completed concurrent with mine development, except where access cannot be eliminated. Reclamation will be completed according to the concurrent reclamation requirements set forth in 25 PA Code § 77.595.

10.7 Identification of Toxic Materials

When applicable (e.g., noncoal operation in coal measures) provide a detailed description of the methods used in the identification of potentially acid and toxic forming materials (boney, rooster, blossom or other inferior coal and noncoal strata) which will be encountered and separately handled. Correlate and identify these strata in the test hole data.

See Mineral Identification & Management Guide included in NOA Supplement document - Module 7.

10.8 Special Handling of Toxic Material

When applicable (e.g. noncoal operation in coal measures) provide a detailed description of the methods to be used in the separation and handling of acid and toxic forming materials. Include transportation, storage, treatment and return of the material to the backfill. Identify the amount and source of clean fill to be placed above and below the material and the compaction and other methods to preclude combustion of the material and prevent groundwater contamination. Indicate all disposal areas on Exhibits 9 and 18.

See Mineral Identification & Management Guide and Asbestos Monitoring & Mitigation Plan included in NOA Supplement document - Module 7.

10.9 Oil and Gas Wells

Where mining activities are proposed to be conducted within 125 feet of any oil or gas well, identify the location on Exhibits 6, 9 and 18 and provide a description of the activity. Provide a demonstration that the well has been sealed; or describe the measures to be taken to insure the integrity of the well, access to the well at all times and the well operator's consent to the proposed activity.

There are no known oil or gas wells within 125 feet of the permit area.

10.10 Wells, Exploration Holes and Bore Holes

Identify the type and location of wells, exploration holes, bore holes and monitoring wells and provide a description of the manner in which each will be cased, sealed or otherwise managed.

The location of existing monitoring wells are identified on Exhibit 6.2: Environmental Resource Map. Wells will be grouted from the base to the surface in accordance with State requirements for well closure. A licensed well driller will be contracted to complete the closure.

10.11 Underground Mines

Where proposed surface mining activities will be conducted within 500 feet of any point of either an active or abandoned underground mine (coal or noncoal), provide a description of the nature, timing, and sequence of the operation. Identify the location of each underground mine opening and the manner in which the opening will be sealed or otherwise managed including appropriate cross sections and design specifications for mine seals. Provide a description of the potential hydrologic impacts of the proposed activities, the effects on the existing groundwater system, and the effect the proposed activities will have upon abatement of pollution or the elimination of hazards to the health and safety of the public.

There are no known underground mines within 500 feet of the permit area.

10.12 Public Highways

Where opening or expansion of pits are proposed within 100 feet of the outside right-of-way of a public highway, or a relocation of a public highway is proposed, identify the name and section of the public highway involved, a description of the activities to be conducted and detailed plans and cross-sections of the proposed activities. Include the written approval of the government agency having jurisdiction over the highway.

(**Note:** If the initial public notice advertisement does not contain a notice of the variance request, attach the proof of publication for advertisement of the variance.)

No new mining activities are proposed within 100 feet of the outside right-of-way of a public highway.

10.13 Public Parks and Historic Places

Where the proposed mining activities may affect any public park or historic place, provide a demonstration of the measures which will be taken to minimize or prevent adverse impacts.

No new mining activities are proposed within 300 feet of a public park or historic place.

10.14 Utilities

Where the proposed mining activities may adversely affect services provided by oil, gas, and water wells; oil and gas pipelines; railroads; utility lines; and water and sewage lines, provide a demonstration of the measures which will be taken to minimize or prevent these impacts.

No utilities are anticipated to be adversely affected by mining activities. Agreements are in place with SEPTA for the site access road crossing of the railroad.

10.15 Bonding Calculations

Attach a completed Bond Calculation Summary-Noncoal for consolidated (5600-FM-BMP0474) or unconsolidated (5600-FM-BMP0473) material (sand, gravel, shale, soil). Complete a Bonding Increment Application and Authorization To Conduct Noncoal Mining Activities (5600-FM-BMP0304).

Bonding calculations have been provided to the Department as part of this Minor Permit Revision.

ATTACHMENT 10.5

OVERFLOW CHANNEL DESIGN CALCULATIONS

TASK: Determine the minimum riprap lining to safely convey the anticipated overflow discharge from the final quarry pit water impoundment to the unnamed tributary to Tohickon Creek.

REFERENCES:

1. "Erosion and Sediment Pollution Control Program Manual", Pennsylvania Department of Environmental Protection, March 2012.
2. AutoCAD, Civil 3D Series 2024, Autodesk, Inc.
3. Hydraflow Express Extension for AutoCAD® Civil 3D® 2024, Version 12, by AutoDesk, Inc.
4. Exhibit 18: Land Use and Reclamation Plan, prepared by EARTHRES, dated April 16, 2025.

ASSUMPTIONS:

1. The proposed overflow channel design sections are designed based on 2.75 cfs/acre consistent with Worksheet #11 Channel Design Data from Reference No. 1.
2. Assuming stone voids of 40%.

CALCULATIONS:

The peak flow was calculated using Assumption No. 1.

Table 1 Peak Flow

Overflow Channel Section No.	Direct Drainage Area (Acres)	Peak Q (cfs)	Total Peak Q (cfs)
Section 1	66.37	182.52	182.52
Section 2	0.77	2.12	184.64
Section 3	0.86	2.36	187.00
Section 4	4.99	13.72	200.72

The lining type was selected based on the calculated flows, velocities, and shear stress guidance from Reference 1. Overflow channel was modeled utilizing Reference No. 3, with average slopes calculated from Reference No. 4. The channel riprap lining is governed by velocity as the channel slope is less than 10%. The following table includes the design parameters for modeling results for the proposed design flow. See attached Hydraflow Express Model Output.

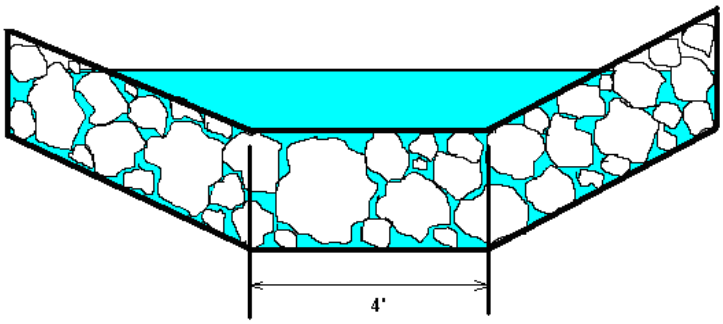
Table 2 – Initial Design Parameters

Section No.	Slope (%)	Lining Type	Lining Thickness (in)	Side Slopes (H:V)	Initial Design Depth (ft.)	Top Width (ft.)	Bottom Width (ft.)
1	7.83	R-5	27	2:1	3	12.56	4
2	1.51	R-5	27	2:1	3	17.00	6
3	6.18	R-5	27	2:1	3	14.04	6
4	1.84	R-5	27	2:1	3	17.96	8

After the initial lining was determined, using the methodology from Reference No. 1 and assuming 40% void space using Reference No. 3, the area of stone voids in the channel lining was subtracted from the cross-sectional area of the water flowing on top of the stone (void spaces on the sides of

the channel were omitted). The flow depth above the stone is then adjusted to produce the revised cross-sectional area of the water above the stone. The calculation of how the effective flow depth was determined and corresponding final design depth is provided in Table 3 below.

FIGURE 6.4 Reference No. 1
Void Space in Riprap Channel Bottom



Bottom width varies

Table 3 – Channel Design Calculations

Section No.	Cross-sectional Area of Stone (sqft.)	Void Area (sqft.)	Flow Area (sqft.)	Effective Flow Depth (ft.)	Final Design Depth (ft.)	Recommended Lining Type
1	9.0	3.60	14.12	1.84	2.0	R-5
2	13.5	5.40	26.22	2.42	2.5	R-5
3	13.5	5.40	14.74	1.60	2.5	R-5
4	18.0	7.20	25.12	2.07	2.5	R-5

HYDRAFLOW EXPRESS MODEL OUTPUT

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Apr 16 2025

Overflow Channel Section No. 1

Trapezoidal

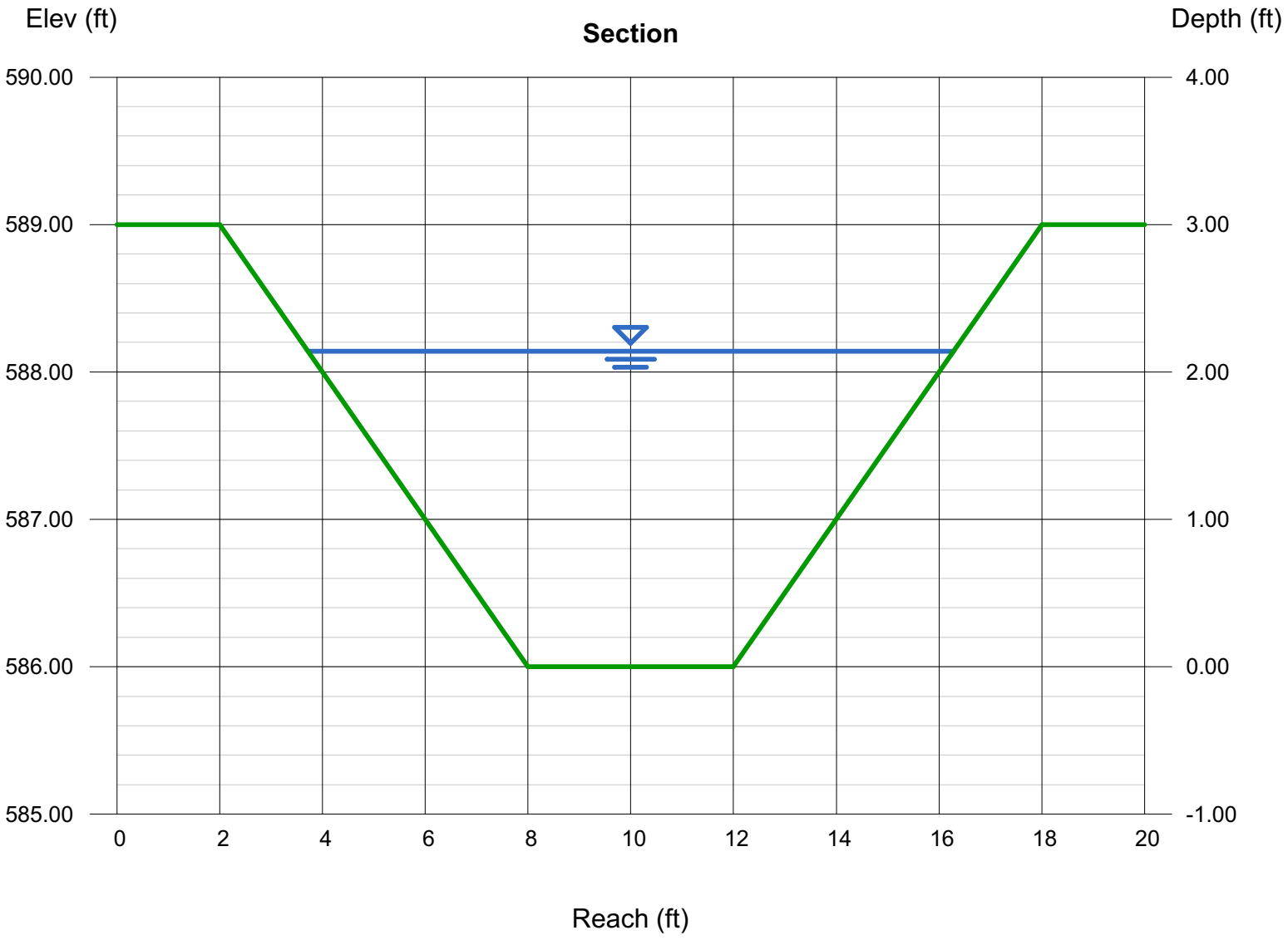
Bottom Width (ft)	= 4.00
Side Slopes (z:1)	= 2.00, 2.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 586.00
Slope (%)	= 7.83
N-Value	= 0.048

Calculations

Compute by:	Known Q
Known Q (cfs)	= 182.52

Highlighted

Depth (ft)	= 2.14
Q (cfs)	= 182.52
Area (sqft)	= 17.72
Velocity (ft/s)	= 10.30
Wetted Perim (ft)	= 13.57
Crit Depth, Yc (ft)	= 2.66
Top Width (ft)	= 12.56
EGL (ft)	= 3.79



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Apr 16 2025

Overflow Channel Section No. 2

Trapezoidal

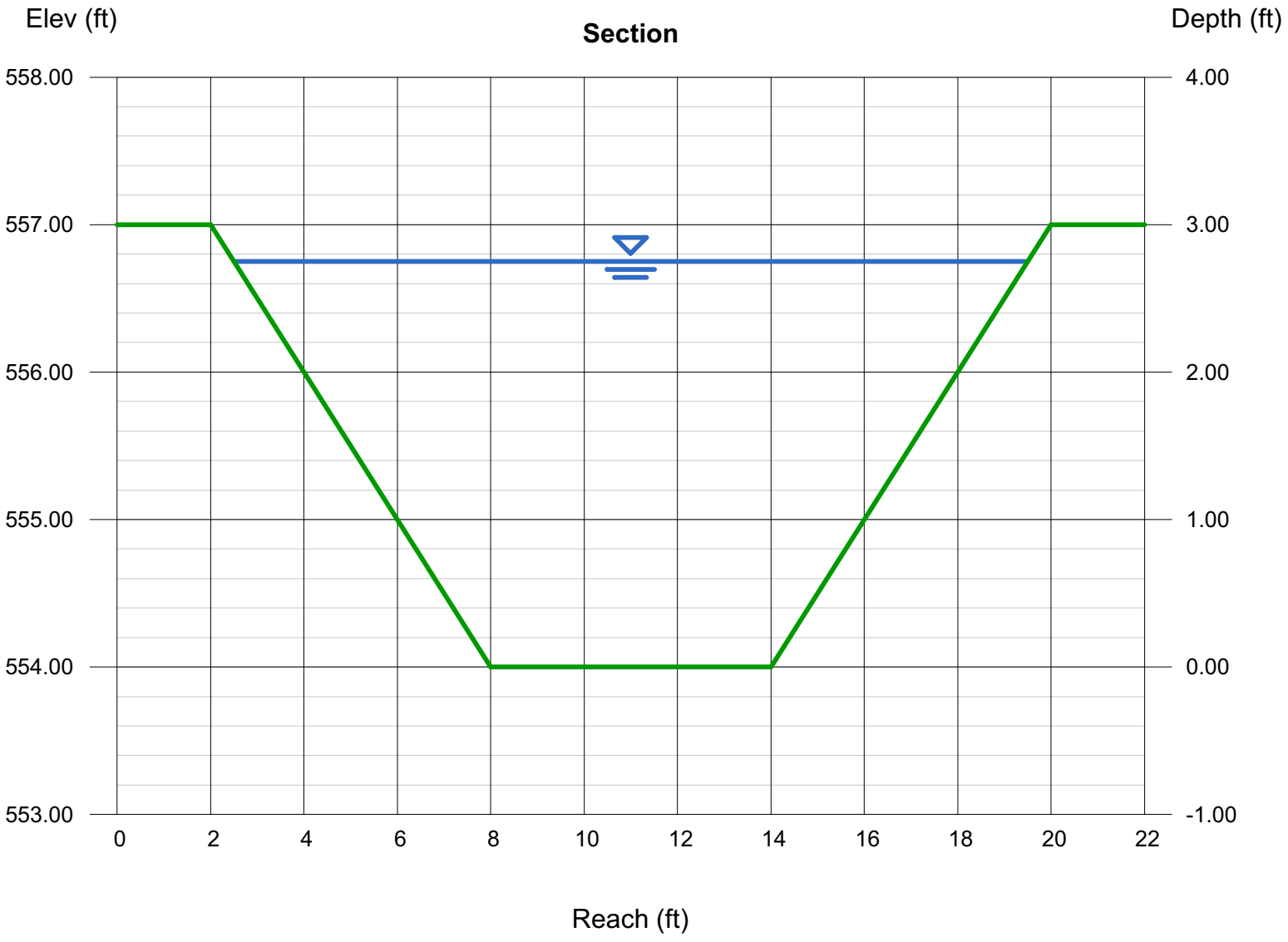
Bottom Width (ft)	= 6.00
Side Slopes (z:1)	= 2.00, 2.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 554.00
Slope (%)	= 1.51
N-Value	= 0.045

Calculations

Compute by:	Known Q
Known Q (cfs)	= 184.64

Highlighted

Depth (ft)	= 2.75
Q (cfs)	= 184.64
Area (sqft)	= 31.62
Velocity (ft/s)	= 5.84
Wetted Perim (ft)	= 18.30
Crit Depth, Yc (ft)	= 2.37
Top Width (ft)	= 17.00
EGL (ft)	= 3.28



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Apr 16 2025

Overflow Channel Section No. 3

Trapezoidal

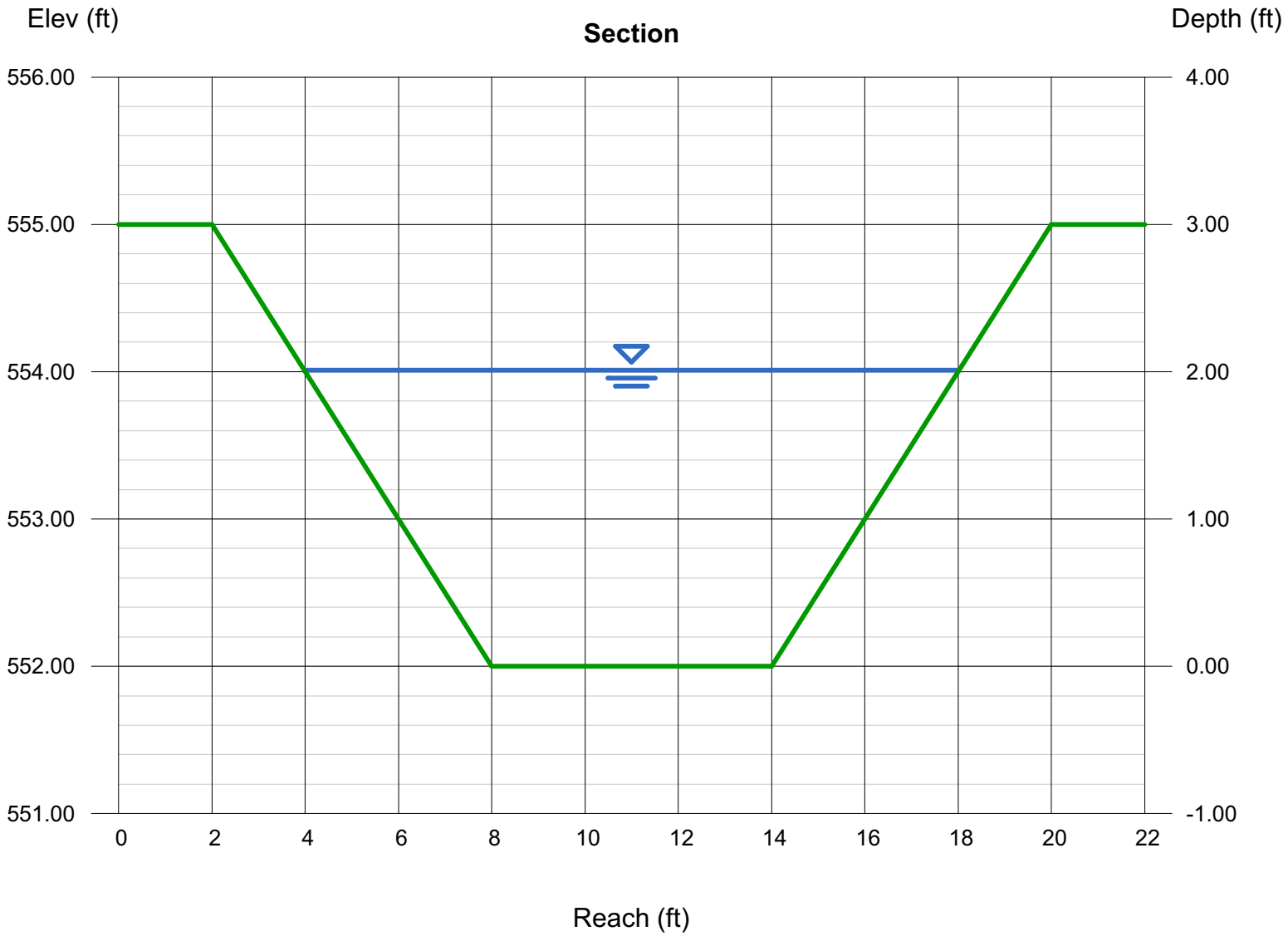
Bottom Width (ft)	= 6.00
Side Slopes (z:1)	= 2.00, 2.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 552.00
Slope (%)	= 6.18
N-Value	= 0.048

Calculations

Compute by:	Known Q
Known Q (cfs)	= 187.00

Highlighted

Depth (ft)	= 2.01
Q (cfs)	= 187.00
Area (sqft)	= 20.14
Velocity (ft/s)	= 9.28
Wetted Perim (ft)	= 14.99
Crit Depth, Yc (ft)	= 2.39
Top Width (ft)	= 14.04
EGL (ft)	= 3.35



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Apr 16 2025

Overflow Channel Section No. 4

Trapezoidal

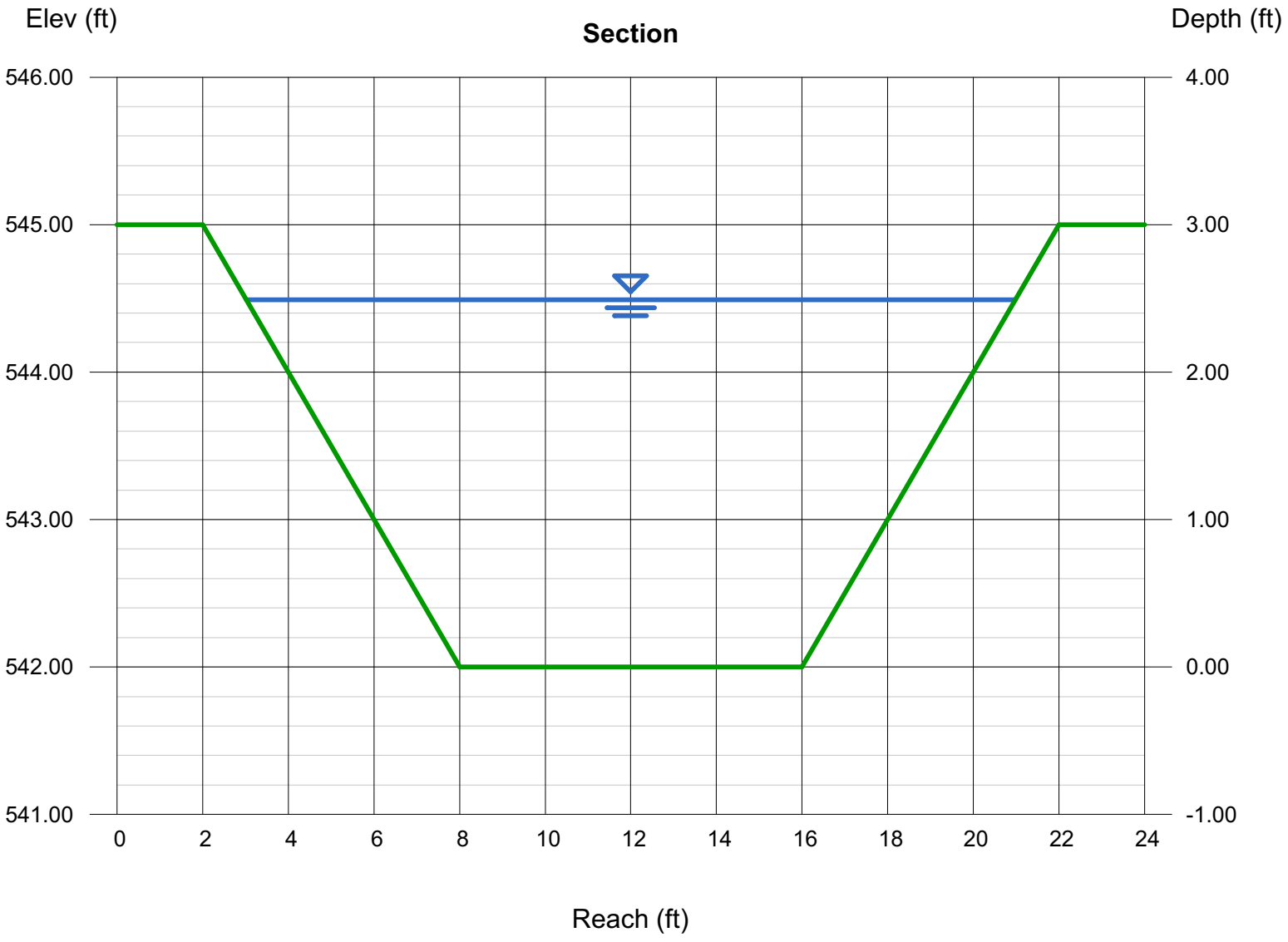
Bottom Width (ft)	= 8.00
Side Slopes (z:1)	= 2.00, 2.00
Total Depth (ft)	= 3.00
Invert Elev (ft)	= 542.00
Slope (%)	= 1.84
N-Value	= 0.046

Calculations

Compute by:	Known Q
Known Q (cfs)	= 200.72

Highlighted

Depth (ft)	= 2.49
Q (cfs)	= 200.72
Area (sqft)	= 32.32
Velocity (ft/s)	= 6.21
Wetted Perim (ft)	= 19.14
Crit Depth, Yc (ft)	= 2.23
Top Width (ft)	= 17.96
EGL (ft)	= 3.09



MODULE 17

AIR POLLUTION AND NOISE CONTROL PLAN

Module 17: Air Pollution and Noise Control Plan

[Chapters 121,123,127,129/NSMCRA 3323(a)(3)/§§ 77.455/77.575]

17.1 Processing Facilities

a) Indicate whether or not there are any processing facilities in the permit area. (Key to Exhibit 9) and specify the mineral(s) to be processed.

Type of Processing Facility	YES	NO	If YES: DRY	WET	Minerals/Product
Crushing	☒	☐	☐	☐	Diabase
Screening	☒	☐	☐	☐	Diabase
Cleaning	☐	☒	☐	☐	
Stockpiling	☒	☐	☐	☐	Diabase

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

Following the required activity-based air sampling events, Heidelberg will utilize portable aggregate processing equipment to produce crushed aggregate.

c) Provide the date that the DEP Regional Air Quality Office was contacted or, if applicable, provide a copy of the DEP Air Quality Program's determination to grant an exemption from the Air Quality Permit requirements and of any authorizations granted under the Air Quality General Permit for Portable Nonmetallic Mineral Processing Plants (BAQ-GPA/GP-3).

Heidelberg will provide Department authorization when issued.

Note: All crushing and screening of noncoal minerals other than sand and gravel will require a separate Air Quality Permit from the DEP Regional Office Air Quality Program unless that Program makes a determination to grant an exemption. Crushing and/or screening of sand and gravel will require a separate Air Quality Permit from the DEP Regional Office Air Quality Program except for wet sand and gravel operations (screening only) and wet or dry sand and gravel operations (crushing and/or screening) unconsolidated material with a rated capacity of processing less than 150 tons per hour unless that Program makes a determination to grant an exemption. BAQ-GPA/GP-3 may be used for authorizing the construction, operation, and modification of portable nonmetallic mineral processing plants that will be located at the mine site.

d) Is the processing facility to be operated by the mining permittee? Yes ☒ No ☐
If so, will the Air Quality permit be held by the mining permittee or a third party? Permittee ☒ Third Party ☐

17.2 Air Pollution Control Plan

Provide a description of the air pollution control plan including what measures will be taken to reduce dust from the following activities:

Prior to commencing crushed aggregate production activities, Heidelberg will conduct a meeting with all personnel to review site procedures, including air emission controls, and will install a windsock at the site to provide a visual indicator of wind direction during site activities. Heidelberg also maintains an automated weather station at the Rock Hill Quarry that continuously records wind direction, wind speed and precipitation.

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

Dust will be minimized utilizing the following measures:

- Heidelberg will operate and maintain a minimum of one (1) truck equipped with water sprays to control dust from roadways. A water truck will be equipped with a water cannon to spray hard-to-reach areas of stockpiles.

- A facility-wide speed limit of 15 miles per hour (mph) will be posted and enforced.

- The site entrance is paved to reduce tracking and improve sweeping efficiency.

- Roads are to be resurfaced/regraded as needed to maintain a clear and safe working surface and thereby reducing dust generation.

- Heidelberg will utilize a street sweeper to clean paved plant roads and public roadways near site entrances as needed. Heidelberg will maintain a log of the time and day when the street sweeper is used.

- Heidelberg will install a truck wash utilizing spray nozzles and pressurized water to remove loose or dusty material from

loaded trucks leaving the site through the main gate. Prior to consistent operations resuming at the Quarry, Heidelberg will install a tire scrubbing gravel pad or utilize a water truck to spray off wheels of trucks leaving the site.

- Application of water or commercial dust suppressing liquids during dry or windy conditions and in winter months, as needed. In addition to water, the Department has approved other suppressants to control dust. Those suppressants include: calcium chloride; Ultra Bond 2000 (manufactured by JMG Enterprises - www.jmgemulsions.com); Pennzsuppress D (manufactured by PennzSuppress - www.pennzsuppress.com); Coherex and Dustbond (manufactured by Weavertown Oil - distributed by D&D Emulsions). Operator reserves the right to use any additional dust suppressants approved by the Department in the future. See Attachment 17.2(a) for documentation provided by the Department.

- When operating, Heidelberg will conduct visual inspections at the beginning and end of each day for material tracked onto public roads. If site material has accumulated on a public road, heidelberg will clean the road promptly.

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

- All trucks carrying products from the site are required to tarp their loads prior to exiting the site. A sign will be posted at the entrance/exit gate to the facility reminding drivers of the tarping requirements.

c) Drilling operation.

- On-board dust collection and/or water sprays on drill rigs will be used to limit dust generation.

- A drill shroud will be utilized at the ground level to control dust from drilling activities.

d) Overburden removal and mineral extraction

- Overburden will be wetted (if necessary) prior to movement or handling to minimize dust generation.

- All efforts are to be made to limit stripping of overburden to the spring and winter months, and/or timed to be during or soon after precipitation events, when soil conditions are no conducive for the generation of large amounts of dust.

e) Stockpiles (overburden, topsoil, product).

- Limit the size and disturbance of stockpiles to the minimums necessary.

- Storage piles will be wetted using water sprays as necessary to control potential emissions. Stock and working piles will be adequately wetted or controlled using dust palliatives or suppressants, wind berms, or breaks during the addition and removal of material.

- If necessary, Heidelberg will apply surface binders to stockpiles of fines to control dust from areas that will be temporarily inactive and may be subject to wind erosion.

- Wooded buffers and/or vegetated earthen berms surround the Quarry. These buffers and berms within Heidelberg's control will remain in place for the life of the mining operation.

f) Loading and unloading areas.

- If necessary, Heidelberg will wet materials to be handled prior to loading trucks. The drop height will be minimized as safety permits. Trucks will be loaded on the leeward side of the storage piles.

g) Crushing and other processing equipment.

- Air pollution control devices will be installed and operated according to PADEP Best Available Technology requirements, coupled with work practices, inspection and source observation.

- Shot rock and processed aggregate spillage will be addressed as needed to minimize creation of dust and to maintain general housekeeping at the site. The frequency of cleaning up spillage will vary depending upon how much material is

running through the processing plant and how much product is being produced, loaded and sold on a given day.

h) Conveyors.

- Conveyors will have belt scrapers where necessary to keep belts clean and reduce the amount of spillage from conveyors. As a general practice, conveyors will not be run empty for long time periods. If there are prolonged periods when no material is being conveyed, the belts will be turned off.

- Dust will be controlled with water sprays and/or dust collection systems in accordance with best available technology requirements on all conveyors/transfer points.

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

17.3 Noise Control Plan

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

- Noise sources from equipment and mining activity include: crushing, screening and stockpiling operations.

b) Indicate the standard days and hours of operation for mobile and stationary equipment:

- All mobile and stationary equipment operate during daytime business hours; however pre-dawn operation may occur on occasion.

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? Pre-dawn operation of mobile and stationary equipment may occur if customer demand for product exists.
☒ Weekends. Which equipment? Weekend operation of mobile and stationary equipment may occur if customer demand for product exists.
☐ Holidays. Which equipment?
☐ Other. Which equipment?

d) Are any of the following located adjacent to the proposed mine operation? Check all that apply and include distance and details.

☒ Residential Areas
☐ Schools
☐ Hospitals
☐ Churches

Details: The mining operation pre-existed many of the residential structures in the area. A few residential properties exist around the permit area. Please refer to Exhibit 6.2 and the Proximity Assessment Map included in the NOA Supplement.

e) Describe the pre-mining environmental sound levels within the adjacent area during weekdays, night time, weekends, and holidays.

- N/A - a pre-mining environmental sound level study was not conducted as the Quarry has existed in this location for more than 120 years.

f) Has a noise study been conducted to characterize the pre-mining noise levels of the surrounding area and estimate the noise levels from the proposed mine operation? ☐ Yes ☒ No
If yes, submit that study.

g) Describe the measures (best management practices) that will be taken to mitigate noise and prevent noise from becoming a public nuisance.

- The area between the Quarry mining permit boundary and surrounding residences is wooded, consisting of mostly deciduous vegetation. The trees and other vegetation assist in reducing noise during site work.

- Aggregate product stockpiles and berms provide additional noise attenuation.

ATTACHMENT 17.2(a)

DUST SUPPRESSANT DOCUMENTATION

From: Menghini, Michael
Sent: Friday, July 18, 2008 9:05:33 AM
To: Bollinger, Amiee; Stutzman, Colleen
Subject: FW: Update on Dust Suppressants

-----Original Message-----
From: Hoyle, Susan
Sent: Friday, April 12, 2002 9:23 AM
To: Menghini, Michael; Bish, David; Bonga, David; Bubbenmoyer, David; Disabella, Peter; Foster, Susan; Gee, Karen; Gratzmiller, Keith; Gray, Ronald; Gustafson, Staci; Heagy, Frederick; Mclemore, Kevin; Mordosky, Ronald; Murray, Richard; Orr, James; Rebarchak, James; Roller, Richard; Stroble, William; Archambault, John; Higgins, Francis; Krueger, John; Mendicino, Michael; Ruhl, Richard; Zvirblis, Anthony
Cc: Kepner, Scott; Colbert, Woodrow; Pounds, William; Sloan, Samuel; Shipman, Rick; Hayes, Joe; Socash, Stephen; Michael Silsbee (E-mail)
Subject: Update on Dust Suppressants

I received an update yesterday from Dr. Silsbee of the PSU Dirt and Gravel Road Program about some new dust suppressants that are expected to be added soon to the list of approved chemicals.

The two new products are Coherex and Dustbond. The parent company is Weaverton Oil and the local distributor appears to be D & D Emulsions.

These will be in addition to the Ultrabond, which is currently on the list of approved chemicals.

Peregrine Falcons Start New Family!
Live video/sound from the nest!
http://www.dep.state.pa.us/dep/falcon

From: Menghini, Michael
Sent: Wednesday, June 15, 2016 9:31:52 AM
To: Bollinger, Amiee
Cc: Latsha, Gary
Subject: Dust Suppressant Info

Per your request

Michael J. Menghini | District Mining Manager
Department of Environmental Protection
Pottsville District Mining Office
5 West Laurel Boulevard | Pottsville, PA 17901
Phone: 570.621.3118 | Fax: 570.621.3110
http://secure-web.cisco.com/11sekQix0B19MWA7M1kljdwALBqPFE3KfqkiPdBFgSE8I73pKJBU9Z10lc4_ILHtCdmVcaBjfRz5TViXu575hypSOztzulIxFYJ0bkQ1JEQV_Iax1GFqECF027_U1Lw0v3xhgqkJK6h2fmqEOG8ZSN486oQnbyqQT95jwou_jUF-bnQFoeR_m46LA-cWQSd06S4ZnAKOzUYQm5jYVk2dfV731tccHHRUQXcC_ohqxhwgH21J4Choj6EPji2hjBkJBHSS5W2l50ApnkEOP3jA4I1djcMFBMkwHd1sprPXnAA-vFvCOTJA1uWMsdG3sAP52vFV2XIaTsSdbUBKQVi6_wA/http%3A%2F%2Fwww.dep.pa.gov

GE Betz, Inc.
4636 Somerton Road
Trevose, PA 19053
Business telephone: (215) 355-3300

Material Safety Data Sheet

Issue Date: 29-MAR-2002

EMERGENCY TELEPHONE (Health/Accident): (800) 877-1940

1 PRODUCT IDENTIFICATION

PRODUCT NAME:

DUSTREAT DC9112

PRODUCT APPLICATION AREA:

DUST CONTROL AGENT.

2 COMPOSITION / INFORMATION ON INGREDIENTS

Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this MSDS for our assessment of the potential hazards of this formulation.

HAZARDOUS INGREDIENTS:

This product is not hazardous as defined by OSHA regulations.

No component is considered to be a carcinogen by the National Toxicology Program, the International Agency for Research on Cancer, or the Occupational Safety and Health Administration at OSHA thresholds for carcinogens.

3 HAZARDS IDENTIFICATION

****

EMERGENCY OVERVIEW

CAUTION

May cause slight irritation to the skin. May cause moderate irritation to the eyes. Mists/aerosols may cause irritation to upper respiratory tract.

DOT hazard is not applicable
Emergency Response Guide is not applicable
Odor: Sweet; Appearance: Dark Brown, Liquid

Menghini, Michael

From: Menghini, Michael
Sent: Tuesday, February 26, 2002 8:41 AM
To: 'druhlin@bellatlantic.net'
Subject: Approved Dust Suppressants

Doug,
Here is the contact info I have on the two dust suppressants I discussed at the PACA mtg.:

Ultra Bond 2000
JMG Enterprises website: http://www.jmgemulsions.com/mainpage.html
Tech rep: John George 1-800-446-6785

Pennzsuppress D
websites: http://www.pennzsuppress.com/index.htm and http://www.pennzsuppress.com/html/ingredients.htm

Please let me know if you need any further info

Drought Information Center
Now Open! Save Water Now!
http://www.dep.state.pa.us (directLINK "drought")

Menghini, Michael

From:	Hoyle, Susan
Sent:	Friday, April 12, 2002 9:23 AM
To:	Menghini, Michael; Bish, David; Bonga, David; Bubbenmoyer, David; Disabella, Peter; Foster, Susan; Gee, Karen; Gratzmiller, Keith; Gray, Ronald; Gustafson, Staci; Heagy, Frederick; Mclemore, Kevin; Mordosky, Ronald; Murray, Richard; Orr, James; Rebarchak, James; Roller, Richard; Stroble, William; Archambault, John; Higgins, Francis; Krueger, John; Mendicino, Michael; Ruhl, Richard; Zvirblis, Anthony
Cc:	Kepner, Scott; Colbert, Woodrow; Pounds, William; Sloan, Samuel; Shipman, Rick; Hayes, Joe; Socash, Stephen; Michael Silsbee (E-mail)
Subject:	Update on Dust Suppressants

I received an update yesterday from Dr. Silsbee of the PSU Dirt and Gravel Road Program about some new dust suppressants that are expected to be added soon to the list of approved chemicals.

The two new products are Coherex and Dustbond. The parent company is Weaverton Oil and the local distributor appears to be D & D Emulsions.

These will be in addition to the Ultrabond, which is currently on the list of approved chemicals.

Peregrine Falcons Start New Family!
Live video/sound from the nest!
http://www.dep.state.pa.us/dep/falcon

Ultra Bond 2000
JMG Enterprises website: http://www.jmgemulsions.com/mainpage.html
Tech rep; John George 1-800-446-6785

Pennzsuppress D
websites: http://www.pennzsuppress.com/index.htm and http://www.pennzsuppress.com/html/ingredients.htm

Please let me know if you need any further info

Drought Information Center
Now Open! Save Water Now!
http://www.dep.state.pa.us (directLINK "drought")

Christina:

Here are the websites for the 2 approved dust suppressants. Please call me if you have any questions.

Michael
(570) 621-3118

D.O.7	Check condition of remote fax.	8215972109

P.1 Mar 11 2002 14:35

** Transmit Conf. Report **

DEP DMO-POTTSVILLE OFC Fax:570-621-3110

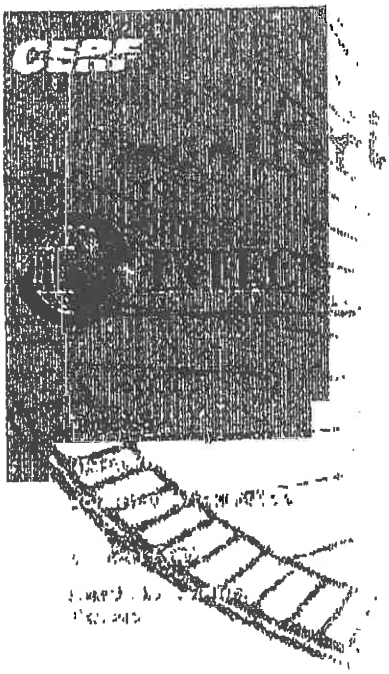
Menghini, Michael

From: Hoyle, Susan
Sent: Tuesday, April 16, 2002 11:46 AM
To: Menghini, Michael; Bish, David; Bonga, David; Bubbenmoyer, David; Disabella, Peter; Foster, Susan; Gee, Karen; Gratzmiller, Keith; Gray, Ronald; Gustafson, Staci; Heagy, Frederick; Mclemore, Kevin; Mordosky, Ronald; Murray, Richard; Orr, James; Rebarchak, James; Roller, Richard; Stroble, William; Archambault, John; Higgins, Francis; Krueger, John; Mendicino, Michael; Ruhl, Richard; Zvirblis, Anthony
Cc: Kepner, Scott
Subject: Contact Information for D&D Emulsions and Weavertown Group

The contact information for the Dustbond and Coherex dust suppressants is as follows:

D&D Emulsions Inc.
Attention: Dave Scott
270 Park Avenue East
PO Box 1706
Mansfield, OH 44901
419-522-9440

Weavertown Group
Donald Fuch, President & CEO
201 South Johnson Road
Houston, PA 15342
724-746-4850 ext. 1111

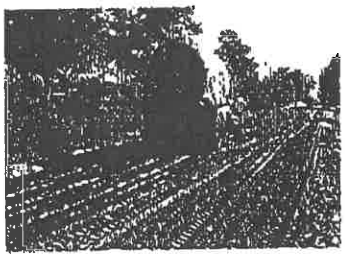


Evaluations

Dust Control/Road Stabilization Agents

last updated 04/01

Project Description



CERF is seeking vendors to participate in a group evaluation of various dust suppression and roadway stabilization products to assess both performance and potential environmental impacts of their use. HITEC will be evaluating the performance aspect of the products, while EvTEC will oversee the evaluation of environmental impacts. As part of the evaluation, in-service demonstrations will be conducted throughout the country in order to gather a broad range of data on how these products perform in different regions, climates, and soil types.

Evaluation Status

To date, four companies have signed on for the evaluation, with a total of five different dust suppression/stabilization products to be evaluated. Vendors who are interested in participating in this effort are encouraged to contact EvTEC for more details. The Final Evaluation Plan is complete and the project is moving into the testing phase for this verification. A total of six demonstration sites from across the country have been identified.

Product Description

Calcium Chloride from General Chemical Calcium Chloride has long been used in cost-effective road maintenance programs. General Chemical's calcium chloride is provided as a 35% liquid solution, packaged both in bulk and flake form. Calcium chloride absorbs moisture from the air, forming a clear liquid that is extremely resistant to evaporation.

Terra Bond® from Fluid Sciences, LLC TerraBond Poly Seal is a liquid soil-stabilizing chemical formulated to effectively seal surfaces, providing strength to virtually all

soil types. TerraBond Poly Seal is blended using combination of organic polymers.

Soil Sement® from Midwest Industrial Supply Soil Sement is a polymer emulsion that produces effective control of dust and erosion and soil stabilization. Soil Sement generates its effectiveness from the length and strength of its polymer molecules and their ability to bond with surface materials.

Enviro Kleen® from Midwest Industrial Supply EnviroKleen is a formulated synthetic organic dust control product that is said to be nontoxic, clean, oil-sheen-free, colorless, odorless, and safe for human, animal, and plant life.

Perma-Zyme 11X from RMI/International Enzymes Inc. Perma-Zyme 11X is an organic, non-toxic multi-enzyme formlutation designed to maximize compaction (increasing soil densities). It acts as a catalyst to greatly accelerate cohesive bonding of soil particles, creating a tight, permanent stratum.

Report Plans

The initial panel meeting was held June 2 and 3, 1999, in Washington, DC, with 15 panelists and four vendors present. The evaluation plan was completed in September 2000. The final evaluation report is tentatively scheduled for publication in early 2002 .

Contacts

Todd Hawkins
Midwest Industrial Supply, Inc.
P.O. Box 8431
Canton, OH 44711
phone: 800-321-0699
fax: 330-456-3247
todd@midwestind.com

Mike Grotefend
Product Manager
Fluid Sciences
P.O. Box 81338
Lafayette, LA 70598-1338
phone: 318-261-0796
fax: 318-272-0124
mikeg@terrabond.net

Jim Shepard

General Chemical Corp.
Delaware Development Laboratory
6300 Philadelphia Pike
Claymont, DE 19703
phone: 800-422-7632 or 302-792-8591
(voicemail - 800-631-8050 ext 7211)
fax: 302-792-8610

Mr. Bob Calaway
RMI Marketing, LLC.
PO Box 953
McLean, VA 22102
phone: 703-759-7220
prc.rmi@worldnet.att.net

For further information on EvTEC or this group evaluation, contact Jenise Dunn at 202.785.6454.

EvTEC Home Page · About EvTEC · Getting Involved · News and Publications · Evaluations

MODULE 18

LAND USE AND RECLAMATION MAP

Module 18: Land Use and Reclamation Map
[§§77.409/77.456/77.462]

Land Use and Reclamation Map

Provide a map or plan that includes the permit area and the area within 1000 feet of the permit area. The map or plan shall be clear, accurate, easily read, and on a scale of no smaller than one (1) inch = 400 feet. Maps on the scale of one (1) inch = 200 feet for permit areas of 100 acres or less and one (1) inch = 400 feet for permit areas larger than 100 acres are preferred. Use the same scale as used for Exhibits 6.2 and 9. Identify the map plan as Exhibit 18 Land Use and Reclamation Map. Each map or plan must bear the seal or facsimile imprint of a registered professional engineer; or the seal or facsimile imprint of a registered professional land surveyor. Show all the following information within the permit area and for a distance of 1000 feet from the permit area, unless specified otherwise. Include an appropriate legend on the map. Indicate which items are present by placing a check mark in the box before the item. Please provide the permit number (if it has been assigned) or a space for it in the title block.

☒ a) reclamation contours (contour intervals of 20 feet or less);

☒ b) proposed permit area;

☒ c) surface water bodies such as streams, lakes, ponds, springs and wetlands (include restricted or variance areas, and names of streams and lakes/use a unique label for each unnamed tributary);

☒ d) property lines (key ownership to Module 5);

☒ e) buildings (include restricted or variance areas);

☒ f) human-made features such as public highways, railroads, utility lines including right-of-ways or easements and other surface and subsurface human-made features (include the name of the highway, railroad, and utility and the restricted or variance areas);

☒ g) existing or previously surface-mined areas and existing areas of refuse, spoil, waste, and processing waste disposal;

☒ i) haul roads which will remain as part of postmining land use;

☒ j) erosion and sedimentation control facilities that will be used until bonds are released and those which will remain as part of postmining land use;

☒ k) dams or impoundments which will remain as part of postmining land use;

☒ l) existing land uses and proposed postmining land uses;

☐ m) areas to be restored to AOC (for areas other than AOC include sufficient cross-sections in Module 10.5 to adequately reflect final surface configurations and postmining water table); **N/A**

☒ n) drainage pattern;

☒ o) permanent revegetation cover types to be established (key to seed mixture number as indicated in module 23.3, woody plant mixture number as indicated in Module 23.4, and/or cropping group number in Module 23.5). Note: if the cover type is consistent for each post-mining land use, then indicate this in lieu of providing an additional key on the map;

☐ p) facilities for protection or enhancement of fish and wildlife; **N/A**

☐ q) lands classified as Primary Agricultural Land under Executive Order 2003-2 (The Agricultural Land Preservation Policy). **N/A**

EXHIBIT 18

LAND USE AND RECLAMATION MAP

PREPARED BY:
EARTHRES
a Division of RESPEC
www.earthres.com

PREPARED FOR:
Heidelberg Materials

PROJECT SITE:
HEIDELBERG MATERIALS NORTHEAST LLC
SMP NO. 79745M1
EAST ROCKHILL TOWNSHIP, BUCKS COUNTY
PENNSYLVANIA

TERRY W. SCHMIDT, P.E.
LICENSE NO. PE044535E

NO.	DATE	BY	REVISIONS
2	4/30/25	JTK	REVISED PER DEP COMMENTS
1	1/15/21	JTK	REVISED PER DEP COMMENTS

EXHIBIT 18
LAND USE AND RECLAMATION MAP

HEIDELBERG MATERIALS NORTHEAST LLC
ROCK HILL QUARRY OPERATION

DRAWN BY:	CHECKED BY:	DATE:	PROJECT NO.	DRAWING NUMBER
JTK	MDF	02/20/18	06100.3.052	R-004

SHEET 4 OF 6

LEGEND

- EXISTING GRADE CONTOUR (2' INTERVAL)
- EXISTING SMP BOUNDARY
- LIMIT OF MINING
- 1,000' SMP OFFSET
- RECLAMATION CONTOURS (10' INTERVAL)
- PRE-ACT HIGHWALL
- LIMIT OF HEIDELBERG DRONE SURVEY
- 300' BUILDING SETBACK
- PROPERTY BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING SURFACE WATER
- EXISTING RAILROAD
- EXISTING TREELINE
- EXISTING GAS PIPELINE
- PROPOSED OVERFLOW CHANNEL
- EXISTING DRAINAGE CHANNEL (TO REMAIN)
- EXISTING BUILDING - RESIDENTIAL
- NWI WETLANDS
- WATER IMPOUNDMENT
- POST-MINING DRAINAGE DIRECTION
- PROPERTY ID

LAND USE LEGEND

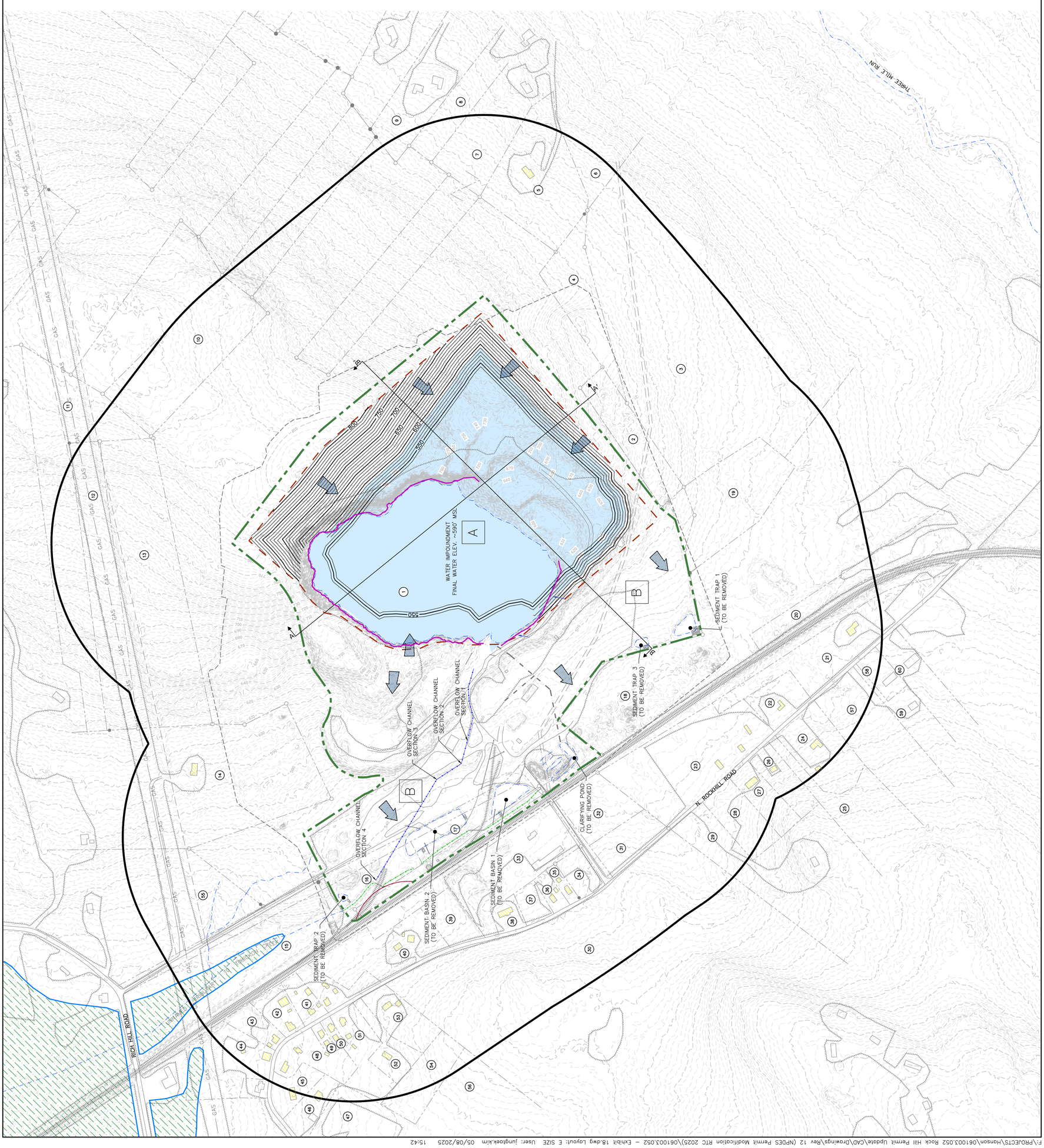
A — EXISTING: INDUSTRIAL (MINING)
POST MINING: UNMANAGED WATER IMPOUNDMENT

B — EXISTING: INDUSTRIAL (MINING SUPPORT)
POST MINING: UNMANAGED NATURAL HABITAT

NOTES:
1. EXISTING GRADE TOPOGRAPHY COMPILED BY PAMAP PROGRAM, PA DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, BUREAU OF TOPOGRAPHIC AND GEOLOGIC SURVEY, FROM 2-FOOT CONTOUR TOPOGRAPHY WITHIN HEIDELBERG SURVEY AREA WAS SURVEYED BY HEIDELBERG PERSONNEL ON DECEMBER 7, 2020
2. EXISTING MINING INFORMATION, PERMIT BOUNDARY, MINING LIMIT, DEPTH OF MINING AND PRE-ACT HIGHWALLS ARE REFERENCED TO THE PERMIT DRAWING "MINING PLAN, SHEET 3 OF 6" PREPARED BY SKELLY AND LOY, DATED MARCH 18, 1980.
3. HEIDELBERG PROPERTY BOUNDARY PROVIDED BY VAN CLEEF ENGINEERING ASSOCIATES, INC. AS TITLED "PLAT OF SURVEY OF LANDS OF GENERAL CRUSHED STONE", PREPARED BY ORANGEVILLE SURVEYING CONSULTANTS, INC., DATED MAY 7, 2001.
4. ADJACENT PARCEL BOUNDARIES ARE REFERENCED TO THE BUCKS COUNTY GIS RECORDS.
5. WETLANDS REFLECT THOSE DEPICTED IN THE NATIONAL WETLANDS INVENTORY FWS WETLANDS MAPPER.
6. PROPERTY OWNERSHIP INFORMATION IS REFERENCED TO MODULE 5 OF THE PERMIT APPLICATION.
7. STREAM INFORMATION IS REFERENCED TO THE PA DEP eMAPPA ONLINE RECORDS.
8. REFER TO THE E&S PLAN DRAWINGS FOR LOCATION OF ALL EROSION AND SEDIMENTATION CONTROL STRUCTURES.
9. GEOLOGY OBTAINED FROM PAGEODE, PA GEOLOGIC DATA EXPLORATION, WWW.GIS.DCNR.STATE.PA.US/GEOLOGY/(2018).

GRAPHIC SCALE
(IN FEET)
1 inch = 200 ft.

NORTH



MODULE 23

REVEGETATION

Module 23: Revegetation

[§77.456(5)]

23.1 Soil Test Plan

Provide a soil test plan for determining plant nutrients and soil amendments required to establish vegetation and achieve the approved postmining land use.

Prior to establishing revegetation as part of final site reclamation, soil testing will be completed. The plan will include the collection and the laboratory testing of composite soil materials to determine the suitability of the soils to support revegetation. Based upon the soil analysis, measures will be taken to supplement the soils with the appropriate fertilizers.

23.2 Temporary Cover. Provide the following information for each seed mixture to be used for temporary cover:

Example: Standard Seed Mixture

Seed Mixture No.	Seed Mixture (Species)	Rate of Appl. 100% PLS* (lbs./acre)	Seeding Dates (Months)
B	*Annual Ryegrass*	*40*	*Early spring till Late fall*
	If storage areas are to be left longer than one growing season the following will be used:		
	Perennial Ryegrass	*10*	

Seed Mixture No.	Seed Mixture (Species)	Rate of Appl. 100% PLS* (lbs./acre)	Seeding Dates (Months)
B1	**Annual Ryegrass**	**40**	**Year Round**
	Japanese or Foxtail Millet	**35**	**Year Round**

* PLS means pure live seed. PLS is the product of the percentage of pure seed times percentage germination divided by 100.

b) Use.

Annual Ryegrass and Millet will be utilized to provide temporary cover and immediate protection for areas where activities have or will cease for more than twenty (20) days.

c) Method(s) of seeding.

Seeding will be accomplished by broadcasting or hydroseeding. If hydroseeding is the method used, fertilizers/soil conditioners and seed may be applied at the same time.

d) How seedbed will be prepared for planting.

The seedbed will be graded and prepared in accordance with the specifications of the hydroseed mixture used. Fertilizers/soil conditioners will be applied (as necessary) at a rate dictated by the soil test results.

e) Type(s) of mulch to be used and rate(s) of application.

An anti-erosion agent may be added to hydroseeding mixtures. In smaller areas where hydroseeding is not economical, hay/straw will be applied at a minimum rate of 3 tons per acre.

23.3 Permanent Cover. [Insert standard seed mixture option(s)] Provide the following information for each seed mixture to be used for permanent cover: (Note: Key to Exhibit 18)

a)

Seed Mixture No.	Seed Mixture (Species)	Rate of Appl. 100% PLS* (lbs./acre)	Seeding Dates (Months)
1	**Big Bluestem** **Little Bluestem**	**7-10** **3.4-4.5**	**April – May** **April - May**
2	**Indiangrass**	**10**	**May - June**
3	**Switchgrass**	**8-12**	**November - April**

* PLS means pure live seed. PLS is the product of the percentage of pure seed times percentage germination divided by 100.

b) Use.

Seed Mixture No. 1, 2 or 3 will be used to establish permanent cover on the affected areas. All three seed mixtures will also be used to stabilize the inside slopes of pond banks and other frequent water flow areas, including channels.

c) Method(s) of seeding.

Seeding will be accomplished by broadcasting or hydroseeding. If hydroseeding is used, soil supplements, lime, fertilizer, and seed will be applied in one step.

d) How seedbed will be prepared for planting.

Fertilizers and/or additional soil conditioners will be applied at rates dictated by soil test results.

e) Type(s) of mulch to be used and rate(s) of application.

The hydroseed mixture may include an anti-erosion agent. Rate of application will be dictated by the specifications of the type of mulching agent used. Because mulching agents vary by suppliers and manufacturers, specifications for the anti-erosion agent(s) proposed for use at the site will be provided to PA DEP for review and approval prior to initial application. The PA DEP will also be notified prior to use of anti-erosion agents that are not the equivalent of those initially approved by the PA DEP.

In smaller areas where hydroseeding is not economical, hay/straw will be applied at a minimum rate of 3 tons per acre.

23.4 Woody Plants. [Insert standard stocking species option(s)] For areas that will also be planted with woody plants, provide the following: (**Note**: Key to Exhibit 18)

a)	Woody Plant Mixture No.	Woody Plant Species	No./ac.
	C	**Northern Red Oak** **Chestnut Oak** **Red Maple** **Green Ash** **Redbud** **Crab Apple**	**680 per acre**

See 23.3 Permanent Cover – Seed Mixture No. 3 for grasses to be used with these woody plants.

b) Method of planting.

Any woody vegetation that is introduced to the site will be placed on slopes greater than 20 degrees.

Based on the soil testing results, additional soil amendments in the form of nitrogen and phosphorus fertilizer will be added, as required, to assist in the early growth response.

c) If the area is to be planted for wildlife habitat, identify the grouping and distribution of the plants.

N/A

23.5 Cropland. For areas that will be planted to crops (agronomic or horticultural), identify the crops to be grown and the management plans to achieve the crop yield standards. (**Note**: Key to Exhibit 18: Land Use and Reclamation Map)

N/A – cropland is not the proposed post-mining land use.