

Module 6: Environmental Resources Maps

6.1 U.S.G.S. Map. [§77.104]

Provide a 7 1/2 minute U.S.G.S. topographic map (latest edition) delineating the proposed surface mine permit area and NPDES discharge points. Identify the map as Exhibit 6.1. (Note: Reproductions or maps obscured by identification keys will not be accepted.) **Sayre**

6.2 Environmental Resource Map. [§77.410]

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 1 inch = 400 feet. Maps on the scale of 1 inch = 200 feet for permit areas of 100 acres or less and 1 inch = 400 feet for permit areas larger than 100 acres are preferred. Use the same scale as used for Modules 9 and 18. Identify the map plan as Exhibit 6.2 Environmental Resources 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. A registered professional geologist must certify the geology-related information of items m), n), o), and p). 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 this item. Please provide the permit number (if it has been assigned) or a space for it in the title block.

- a) topographic contours (contour intervals of 20 feet or less)
- b) proposed permit area
- c) surface water bodies such as streams, lakes, ponds, springs, wetlands, mine discharges and constructed or natural drains (include restricted and 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 names of the owners and present occupants, and the current use. Show restricted or variance areas)
- f) man-made features such as public highways, railroads, utility lines including right-of-ways or easements and other surface and subsurface manmade features (include the name of the highway, railroad and utility and the restricted or variance areas)
- g) oil and gas wells in and within 125 feet of the proposed permit area (include the name of the well owner/operator and well permit number. Show restricted or variance areas.)
- h) public or private cemeteries or Indian burial grounds (include restricted areas)
- i) existing or previously surface-mined areas, and existing areas of spoil, waste, and processing waste disposal (key to Module 7.4 and show permit name on map)
- j) areal extent of active and abandoned underground mines and entries (Key to Module 7.4)
- k) solid waste disposal areas
- l) test hole locations (key to 7.1 b data)
- m) strata strike and dip or structure contours
- n) geologic faults
- o) formation contacts and coal croplines (when applicable)
- p) direction(s) of groundwater flow (local and regional)
- q) public and private water supplies (include type, elevation of all springs, and key to Module 8.2(a)(8))
- r) public water supplies within ½ mile of the permit area and those with Wellhead Protection Zone extending to the permit area. Show on Exhibit 6.1 if outside limits of Exhibit 6.2.
- s) background and proposed monitoring points (key to Module 8. 1A)
- t) NPDES discharge points
- u) landslide prone areas
- v) sinkhole development and known cave systems

Module 7: Geology Information [§77.403-404]

7.1 Stratigraphy.

- a) Rock Unit: Period (e.g., Lower Ordovician) Devonian - Recent
 Formation (e.g., Rockdale Run) Lock Haven - Stratified Drift

- b) Attach Geologic Logs of test holes or equivalent information on attached data sheet (test holes should be drilled to the ultimate depth of mining unless waived by the Department based on acceptable equivalent information). Log description must include the surface elevation of each hole submitted, lowest elevation of proposed excavation, elevation of static groundwater (method and date of measurement), lithologic description, location and extent of voids and thickness of strata encountered. Drill holes, highwall sections, or equivalent information should be located to represent the thickness of mineral and overburden to be disturbed in areas of maximum thickness.

See attached Generalized Highwall Section for the Lock Haven formation (pg 7-3)

- c) Provide stratigraphic correlation of the strata by geologic cross sections or fence diagrams to include lithology, stratigraphy, existing ground surface, proposed mining limits, proposed benching, final reclamation slopes, postmining water table, aquifers to be encountered or affected, directions of groundwater movement and underground mines and cave systems. [Horizontal scale shall not be smaller than the scale of Exhibit 6.2 (i.e. not less than 1 inch:400 feet, or 1 inch:200 feet), larger scales are acceptable (e.g. 1 inch:100 feet)]

See Exhibit 7/10

7.2 Structure.

- a) Describe the local geologic structure and its relationship to the regional structure. Use diagrams and regional structural relief maps where applicable.

This site contains bedrock from the Lock Haven formation as shown on the Geologic Map of PA (Figure1) (Socolow, 1980). Prior geologic literature, as identified in Stratigraphy, Structure, and Sedimentary Patterns in the Upper Devonian of Bradford County, Pennsylvania, had this same bedrock listed in greater detail (Figure 2) as the Nunda Formation, overlying the Gardeau Formation, with the Corning Member separating the two (Woodrow, 1968). The Corning member was distinct enough to provide identity across a large area so that a structure map could be created over much of Bradford County (Figure 3). This map shows a southward dipping structure of approximately 1° in the area of this proposed mine. A site specific measurement on exposed bedrock recorded a south dipping bedding plane, consistent with published literature, albeit with a steeper dip angle.

Along the eastern portion of the permit area, on the valley floor of the Chemung River, stratified drift is present for which sand and gravel mining is proposed. Total depth of resource is not expected to exceed 50 feet.

- 7.3 Indicate joint and fracture orientations on the Module 6.2 map (or Module 6.1 if locations not within limits of Module 6.2), using standard joint strike and dip symbols, where fracture/joint measurements were taken. Rose diagrams may be submitted if available.

| Type of Joint Or Fracture* | Lithology | Number of Measurements | Depth Below Surface | Aperture (width) | Key to 6.2 (or 6.1) |
|----------------------------|---------------------|------------------------|---------------------|------------------|---------------------|
| <u>Primary Joint</u> | <u>Siltstone/SS</u> | <u>1</u> | <u>10-25'</u> | <u>0-2 mm</u> | <u>M1</u> |
| <u>Secondary Joint</u> | <u>Siltstone/SS</u> | <u>1</u> | <u>10-25'</u> | <u>0-2 mm</u> | <u>M1</u> |
| <u>Bedding Plane</u> | <u>Siltstone/SS</u> | <u>1</u> | <u>10-25'</u> | <u>-</u> | <u>M1</u> |

*Type of Joint or Fracture refers to tectonic, stress relief, bedding plane, etc.

Source of information (site specific measurements, publication source, etc.) Site specific measurements were as follows:

M1 – Primary Joint Orientation N 22° W, vertical

M1 – Secondary Joint Orientation N 80° W, plunge 4-6° E

M1 – Bedding Plane Strike N 75° W, Dip 5° S

7.4 Mine Workings and Solid Waste Sites.

Submit the following data on all active, completed and abandoned underground and surface mines and coal refuse disposal sites which are in or within 1000 feet of the permit area: (Key location to Modules 6.2, 9 and 18.)

NONE KNOWN

Surface and Underground Mines

| Operator | Permit No. | Map Key | Status | Mineral | Water Sample No.(s) |
|-----------------|-------------------|----------------|---------------|----------------|----------------------------|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

List the operator permit number, and type of any solid waste disposal sites in or within 1000 feet of the permit area.

N/A

7.5 Overburden Analysis.

Note: Typically overburden analysis is not required for noncoal mining operations. However, there are geologic conditions that may make overburden analysis necessary due to the potential for surface and/or groundwater pollution. Examples are mines in coal field strata that may be acid-forming, and sites where rock has undergone sulfide mineralization. The necessity for overburden analysis should be determined prior to permit application submittal. This can be done by contacting the appropriate District Mining Office.

The interpretation of overburden analysis should be provided in this Module. However, the operational plans for material placement should be provided in Module 10.

Overburden analysis has not been conducted for this site as the stratigraphy to be mined, the Lock Haven formation, is not considered to be acid producing rocks (PA Geo Survey, 2005). No evidence of coal occurrence, or questionable strata was observed within the strata of the currently exposed highwalls of the proposed rock to be mined. Water quality data that has been gathered does not show any significant presence of metals, sulfates, or acid.

7.6 Special Considerations.

N/A

References:

Socolow, A.A., 1980, Geologic Map of Pennsylvania (2nd ed.), Pennsylvania Geological Survey, Map 1.

Woodrow, D. L., 1968, Stratigraphy, structure, and sedimentary patterns in the Upper Devonian of Bradford County, Pennsylvania: Pennsylvania Geological Survey, 4th ser., General Geology Report G 54, Plate 2 – Structure Contour Map on top of the Corning Member

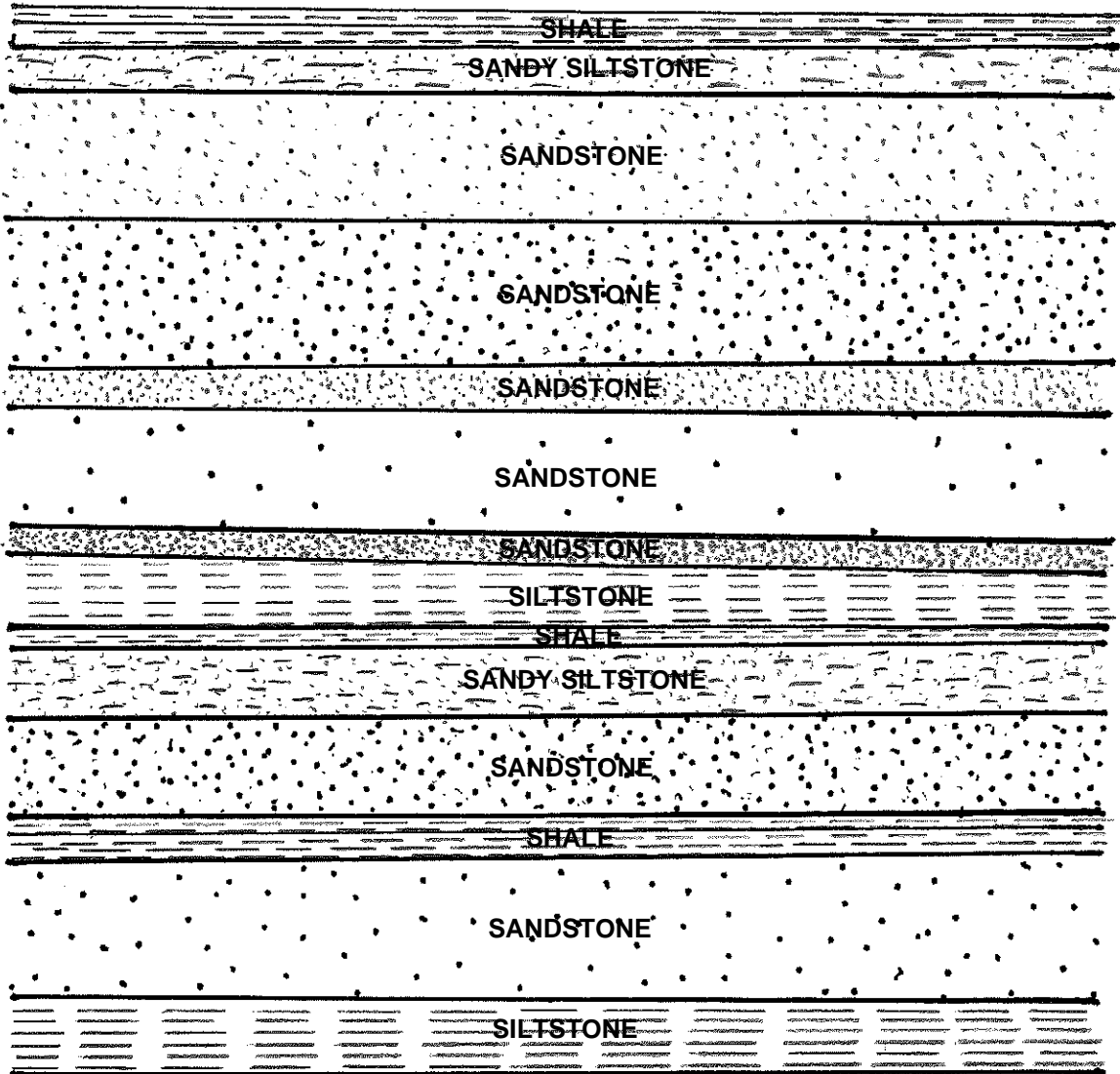
Sevon, W.D and Braun, D.D., 1997 (2nd ed.), Glacial Deposits of Pennsylvania, Commonwealth of Pennsylvania Department of Conservation and Natural Resources Bureau of Topographic and Geologic Survey, Map 59.

<http://www.depgis.state.pa.us/emappa/> (Industrial Mineral Mining Operation)

Google Earth Pro, IndustrialMineralMiningOperations2019-01 (Pennsylvania)

Pennsylvania Geological Survey, 2005, Geologic units containing potentially significant acid-producing sulfide minerals: Pennsylvania Geological Survey, 4th ser., Open-File Report OFMI 05–01.1, 9 p., Portable Document Format (PDF) file.

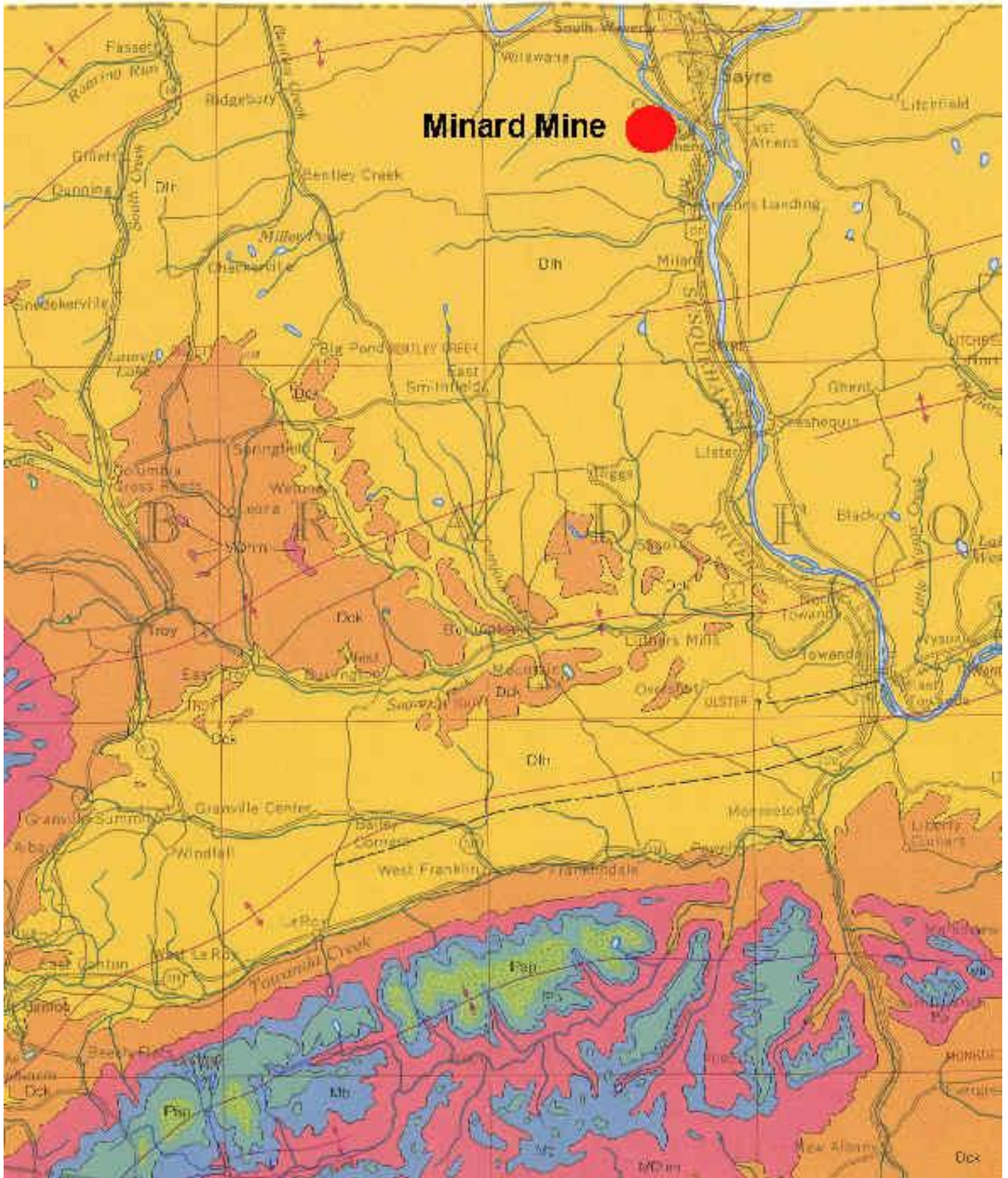
GENERALIZED HIGHWALL SECTION



Strata exposed in the existing highwalls is consistent with that of the formation description. Alternating beds of sandstones, siltstones, and shales are present in colors ranging from gray, to brown, to red. Bed thicknesses of a few inches to 10 feet or more are common, with bedding surfaces typically non-parallel. Massive rock units of fine-grained sandstone are often utilized for cut stone (bluestone) product while the thinner beds provide an ample supply of rock for the crushed aggregate market.

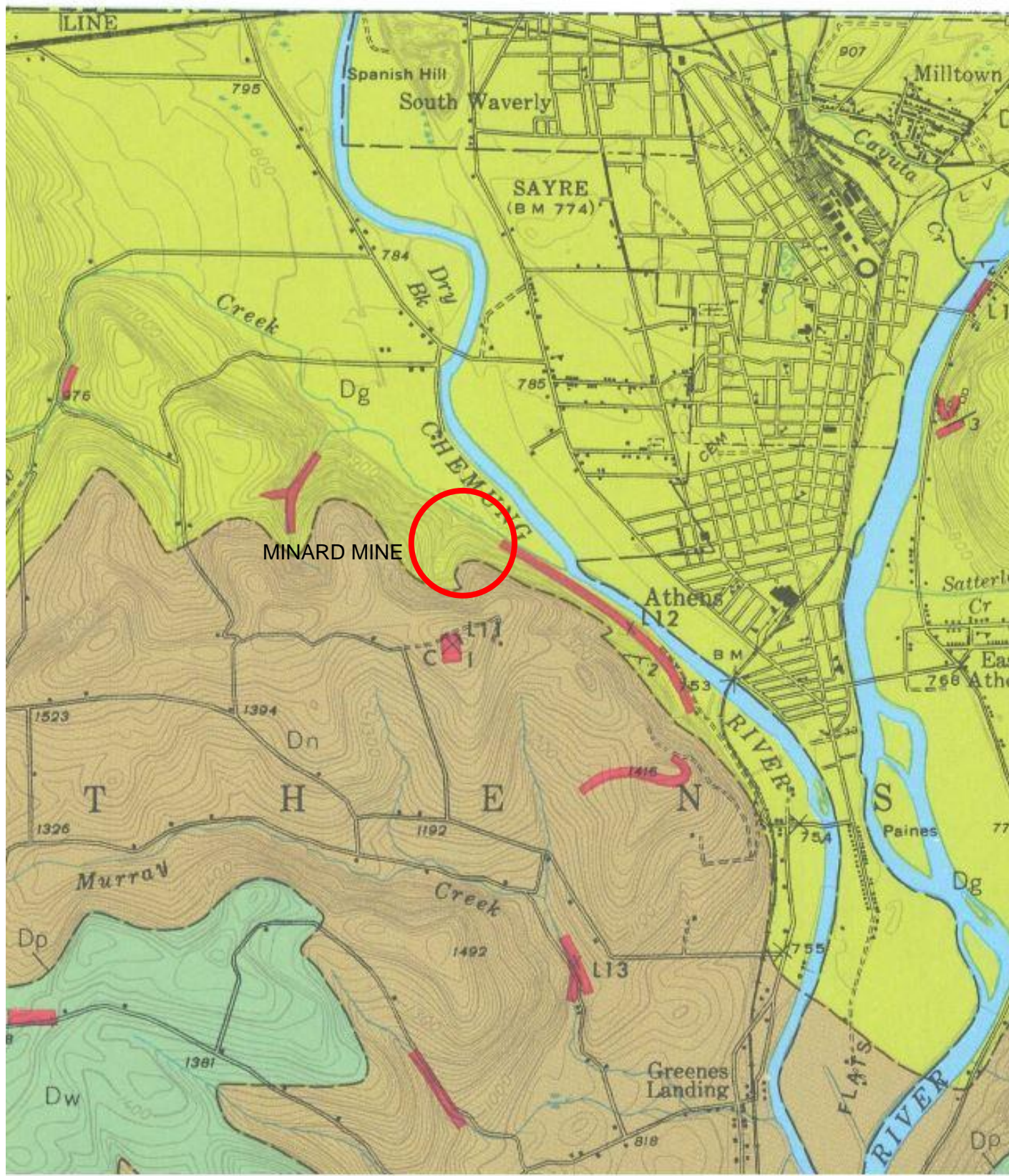
EXHIBIT 7.1b

Geologic Map of Pennsylvania - (2nd ed.)



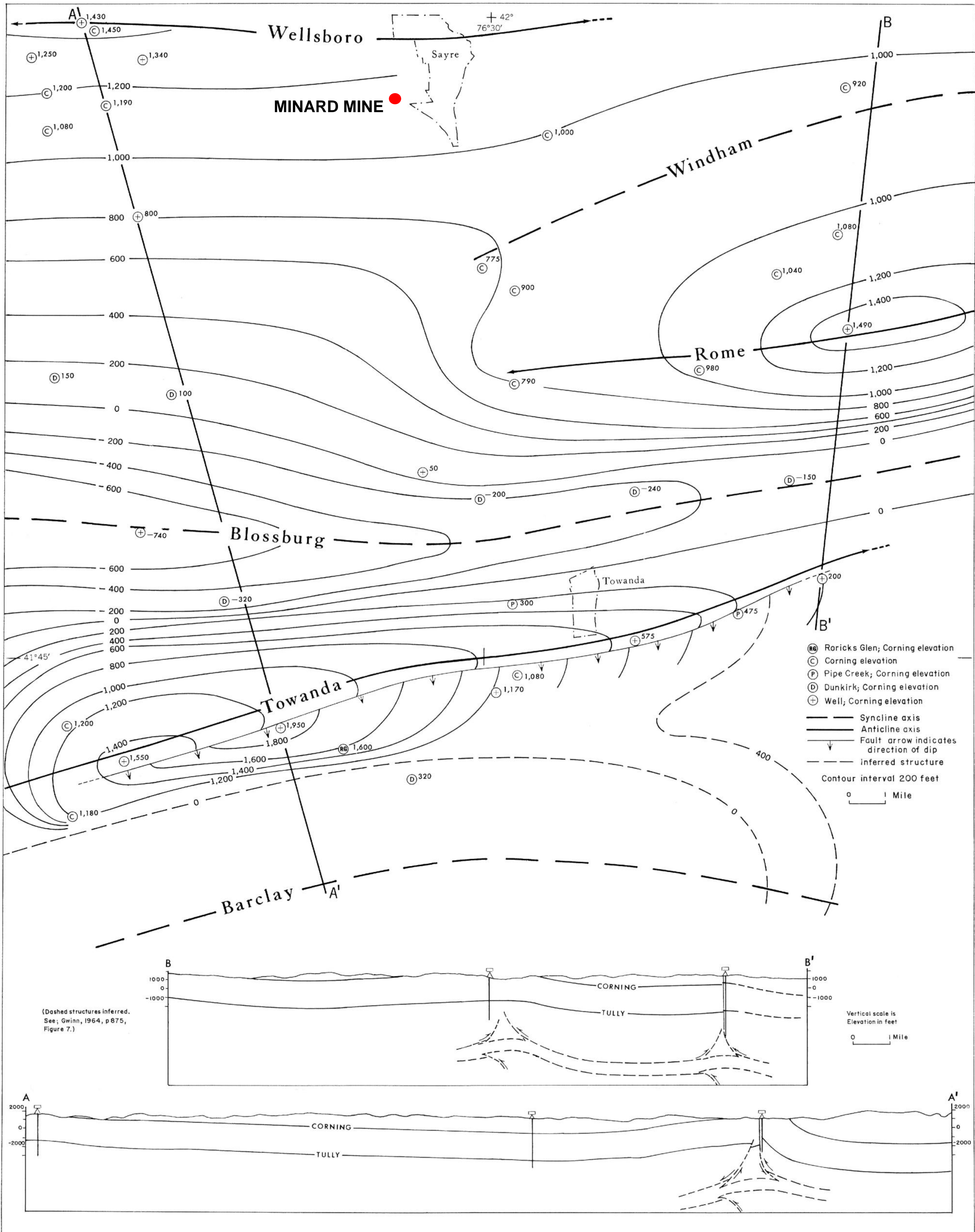
Bedrock Geology of the Proposed Minard Mine - Lock Haven formation

Figure 1



Bedrock Map (Plate 1) of Stratigraphy, Structure, and Sedimentary Patterns in the Upper Devonian of Bradford County, PA (Woodrow, 1968). Dashed line separating Dg from Dn shows the location of the Corning member for which structure mapping was completed (see figure 3)

Fig 2



STRUCTURE CONTOUR MAP ON TOP OF THE CORNING MEMBER

Figure 3

Module 8: Hydrology

[§§77.405-407, 77.457, 77.521]

8.1 Chemical Analysis.

Provide the following data, in accordance with 8.2 for each point in the background sampling and monitoring program and report on Module 8.1(A) (separate form).

- a) pH (field & laboratory) **SEE ATTACHED 8.1A SHEETS**
- b) Total Suspended Solids (mg/l)
- c) Total Dissolved Solids (mg/l) or Specific Conductance ($\mu\text{S}/\text{cm}$ at 25°C)
- d) Field temperature at sample source (°C).
- e) Provide the following in addition to a) through d) above, if requested by the Department. *

Total Alkalinity (mg/l)
Total Acidity (mg/l)
Total Iron (Fe) (mg/l)
Total Manganese (Mn) (mg/l)
Sulfates (SO₄) (mg/l)

*If the proposed noncoal minerals to be mined are located within the coal fields or other known acid producing areas or a watershed sensitive to mining impacts, additional parameters may be required by the Department. Contact the appropriate District Mining Office prior to beginning sampling to determine if these parameters are needed.

- f) Flows of perennial streams above and below the operation and surface and underground mine discharges must be measured by approved methods. In addition, other flows from springs, streams, seeps or other discharge points in the representative monitoring program should be measured to reflect seasonal variations. (The Department may waive sampling points if there is a representative sampling of the requested points.) The elevations and flows of springs, seeps, and mine discharges are required.
- g) Provide a description of the type of sample point (e.g. well, spring, etc.) and its relationship to the mine site (e.g. up-gradient, perched aquifer, down-gradient).

| Sample Point | Surface Elevation | Description | Location |
|--------------|-------------------|---------------------------------------|--------------------------|
| 1A | 770 | Jennette Minard Well | NE of permit area |
| 1B | 770 | wetland | Northcentral permit area |
| 94A | 790 | Sparduit Well | NW of permit area |
| 96A | 779 | Blackman Well | NW of permit area |
| 100A | 774 | Forest Well | North of permit area |
| 102A | 773 | JDS Well | NE of permit area |
| 103A | 766 | JDS Well | NE of permit area |
| 104-1A | 782 | Richard Minard Well | North of permit area |
| 106A | 768 | Marvin Miller Well | NE of permit area |
| 107-1A | 772 | Ward Well | North of permit area |
| 108A | 768 | Marvin Miller Well | NE of permit area |
| 109A | 769 | Dabroski Well | North of permit area |
| 111-3A | 769 | Elsbree Well | North of permit area |
| | | | |
| | | | |
| S1A | 745 | Downstream Tutelow Creek | SE corner of permit area |
| S1B | 756 | Tutelow Creek at existing crossing | Central permit area |
| S1C | 784 | Upstream Tutelow Creek | NW of permit |
| S2A | 776 | UNT 2 to Tutelow Creek | Central permit area |
| S3A | 764 | UNT 2 to Tutelow Creek | Central permit area |
| S4A | 778 | UNT 4 to Tutelow Creek (pond outfall) | NW permit area |
| S5A | 744 | Downstream Chemung River | SE of permit area |
| S5B | 783 | Upstream Chemung River | NE of permit area |

- h) Provide the name(s), address(es) and telephone number(s) of the individual(s) responsible for the collection and analysis of this data.

Samples were collected by Tim Gourley (Tract Engineering), 120 Ridge Avenue, State College, PA 16803, (814) 272-0301, and analyzed by G & C Coal Analysis Lab, Inc., 1341 Hoffman Hollow Road, Summerville, PA 15864, (814) 849-2559.

- i) Provide a description of the methodology used to collect and analyze this data.

Each sample point for the proposed permit is obtained as a “grab sample”. Collection for all private water supplies is at the nearest untreated user endpoint. If untreated samples are not available it is to be noted on the sample analysis sheets.

Springs are collected at overflow points, if a cistern or other storage facility is used, or directly from the spring under field conditions. Dug or drilled private well static water levels are measured by electric probes in so far as to not interfere with the hardware. Should this not be possible due to the well being buried, sealed or otherwise made inaccessible, the well data is obtained from the landowner/user through interview and/or from drilling logs if available.

All data is recorded on the 8.2(A)(5) Private Water Supply Information sheet.

Flows are determined by various methods. Springs and/or small stream flows may be determined by the installation of a “V-Notch” weir, electric flow meter, portable flume or measured cross-section. Pipe flows are determined using the California Pipe flow method. Timed volume can be used when flow rates are low and a known volume container is used to collect the sample. Also, measured cross-sections and measured velocities for natural drains and streams are employed. In some instances the samples are obtained by suction when flows are too low to utilize the methods mentioned above. Each sample has been noted as to the method of collection used. Where channelized flows defuse into a wetland, flows are not recorded due to the uncertainty of the flows in the wetland substrate.

All samples are analyzed following the procedures presented in the Standard Methods published by the American Public Health Association and the American Works Association with pH determined by electronic meters. The method numbers are as follows:

| | | |
|-----------------|--------|--------------------------------|
| Al | | Calorimetric |
| Mn | 3500 | Manganese Persulfate Method |
| pH | 450 H- | Electrometric Method |
| Fe | 3500 | Fe D. Phenanthroline |
| Alk. | 2320-B | Electrometric Titration |
| Acid. | 2310-B | Electrometric Titration |
| Sp. Cond. | 2510 | Conductivity |
| SO ₄ | 4500 | E. Turbidimetric |
| TSS | 2540 D | TSS Dried at 103 – 105 degrees |

8.2 Background Sampling and Monitoring.

a) Background Sampling

SEE ATTACHED 8.1A SHEETS

Provide the results of the chemical analyses, as required by the Department, that characterize the water quality of sample points listed in 1) through 8). Background sampling points must have at least two (2) complete chemical analyses, at monthly intervals. All sampling points must be keyed to Exhibit 6.2 and identified in Module 8.1(A).

Note: *Include sample(s) from a low flow period.*

- 1) each stream that receives discharge, runoff or drainage from the operation.
- 2) streams, springs or wetlands that are representative of the surface and groundwater system of the general area.
- 3) springs, seeps and wetlands within the permit area and springs, seeps and wetlands within 1000 feet of the permit area.
- 4) impoundments within the permit area and impoundments within 1000 feet of the permit area.
- 5) impoundments, impoundment discharges, and discharges from backfilled areas associated with previous or current underground or surface coal mines within the permit area and within 1000 feet of the permit area.
- 6) discharges within the permit area resulting from underground mines and discharges resulting from underground mines that are within the permit area but discharge outside the permit area.
- 7) any monitoring wells developed to determine the characteristics of the groundwater. (The Department may require additional monitoring wells.)
- 8) private water supplies and water supplies abandoned because of degradation or pollution from mining, within the permit area and within 1000 feet of the permit area. For each water supply sampled, provide the data required on the Private Water Supply Information Exhibit 8.2(A)(8) and indicate the source of the information (e.g. owner interview, survey by operator, P.E. etc.). (Provide driller logs if available.) (The Department may require additional water supply information on a case-by-case basis.)

b) Monitoring Program

Describe the proposed surface and groundwater monitoring plan that will be conducted. The monitoring plan shall include quantity and quality measurements of discharges from the operation; points that will show any effect of the discharge on the receiving stream; and points that will show any effect on the groundwater system. Unless otherwise approved by the District Mining Office prior to permit application submittal, monitoring points must have a minimum series of six (6) complete chemical analyses collected at monthly intervals and should include the month of August, September or October to reflect low flow conditions. A minimum of six (6) monthly samples should be submitted with the application and any additional samples while the application is in process.

All monitoring points must be keyed to Exhibit 6.2. Monitoring plans must provide for collection and monitoring on a quarterly basis unless otherwise specified by the Department. All monitoring data must be compiled on Module 8.1(A) or equivalent facsimile. All monitoring points should be identified in the field with durable markers that can be maintained (wooden stakes, metal or plastic tags, etc.; not just plastic flagging).

Once all background monitoring has been completed (6 samples for each established monitoring point), and upon permit activation, these monitoring points will be sampled and measured on a quarterly basis, with results being submitted to the Department. Water level measurements will be made within the monitoring wells prior to collecting samples for qualitative purposes.

The following monitoring locations should be included in the monitoring program:

| | Monitoring Points (Key to Exhibit 6.2) |
|--|---|
| 1) receiving streams above proposed discharge points | <u>S1C, S5B</u> |
| 2) receiving streams below proposed discharge points | <u>S1A, S2A, S5A</u> |
| 3) abandoned underground or surface mine discharges that are hydrologically connected and may be impacted by the proposed mining | <u>-</u> |
| 4) representative springs and seeps within the permit area and within 1000 feet of the permit area | <u>-</u> |
| 5) representative wetlands with defined discharge points within the permit area and wetlands within 1000 feet of the permit area that may be impacted by the proposed mining, | <u>1B</u> |
| 6) water supplies | <u>1A, 103A, 104-1A</u> |
| 7) cased boreholes/piezometers | <u>-</u> |
| 8) point source discharges | <u>001, 002 (ALL)</u> |
| 9) treatment pond discharges | <u>(ALL)</u> |
| 10) sedimentation pond discharges | <u>(ALL)</u> |
| 11) pit water during active mining (identify by mineral being mined) | <u>-</u> |
| 12) each monitoring well developed to determine the characteristics of the groundwater | <u>-</u> |

Note: In cases where cased boreholes/piezometers or monitoring wells are not necessary, insert NA above and provide an explanation.

8.2(A)(8) PRIVATE WATER SUPPLY INFORMATION (key to Module 6.2)

| Parcel ID (Sample Point No) | Owner | Type of Supply (Dug or Drilled Well, Spring) | Use | Surface Elevation (MSL) | Depth of Well | Depth of Casing | Diameter of Well | Static Water Elevation (MSL) or Flow, Date of Measurement | Type of Treatment If Any (iron filter, etc.) |
|--------------------------------|---|--|----------|----------------------------|--------------------|--------------------------|------------------|---|--|
| 94 | Eileen Sparduit 972 Meadowlark Dr Sayre PA 18840 | Drilled Well | Domestic | 790 | Unkwn | Unkwn | Unkwn | --- | Culligan installed 2016 Reported seasonal cloudiness |
| 96 | Daniel & Kristi Blackman 1072 Meadowlark Dr Sayre, PA 18840 | Drilled Well <i>Havens Well Drilling 2018</i> | Domestic | 779 | 80' | 74' | 6" | 100 gpm 10' SWL drilled | |
| 100 | Arthur Forrest 1410 Meadowlark Dr Sayre, PA 18840 | Drilled Well | Domestic | 774 | 95' | 93' | 6" | 20 gpm 17' SWL drilled | |
| 102 | JDS 1522 Meadowlark Dr Sayre, PA 18840 | Drilled Well <i>Vanderhoof 2013</i> | Domestic | 773 | 88' | 88' | 6" | 25 gpm 15' SWL drilled | |
| 103 | JDS 1570 Meadowlark Dr Sayre, PA 18840 | Drilled Well <i>Vanderhoof 1967</i> | Domestic | 766 | 59' | 59' | 6" | 18 gpm 10' SWL drilled | |
| 104 (1A) | Jennette Minard 312 Minard Ln Sayre, PA 18840 | Drilled Well 1920's | Domestic | 770 | NA | NA | 6" | 753.4 08/25/20 752.6 09/30/20 752.7 10/26/20 | No treatment Iron staining reported |
| 104-1A | Richard Minard 1284 Meadowlark Dr Sayre, PA 18840 | Drilled Well Cummings 2002 | Domestic | 782 | 88 | 91' (3' above ground) | 6" | 762.0 03/05/20 757.0 08/25/20 756.1 09/30/20 | No treatment Iron staining reported Water once had a sulfur smell, but no longer |
| 107-1 | Gregg Ward 1517 Meadowlark Dr Sayre, PA 18840 | Drilled Well <i>Vanderhoof 1989 1988</i> | Domestic | 772 | 103' 90' | 103' 87' | 6" | 20 gpm 20' SWL drilled | Iron removal and softner |
| 108 | Marvin Miller 1701 Meadowlark Dr Sayre PA 18840 | Drilled Well <i>Vanderhoof 1967</i> | Domestic | 768 | 74' | 74' | 6" | 12' SWL drilled | None Reported good water quality and volume |
| 109A | Joseph Dabroski 1739 Meadowlark Dr Sayre, PA 18840 | Drilled Well <i>Vanderhoof 1967</i> | Domestic | 769 | 74' | 74' | 6" | 12' SWL drilled | No Treatment, reported good quality |
| 111-3 | Ethan Elsbee 101 Markham Rd Sayre, PA 18840 | Drilled Well <i>Vanderhoof 2016</i> | Domestic | 769 | 88' | 88' | 6" | 20 gpm 16' SWL drilled | |

*PaGWIS (Department of Conservation of Natural Resources) was searched for any **available records**.

** Data for well 108 was obtained from Water Resource Report 68 – Table 21, page 68

8.3 Characterization of Groundwater [§§ 77.405, 77.457 and 77.521]

Characterize the existing hydrologic balance of the permit and general areas. Cite all references and sources of information.

- a) Identify all aquifers above the lowest mineral to be mined and the first aquifer below the lowest mineral to be mined. Include stratigraphic units, depths, and current use. Discuss the general uses of these aquifers in the area and known quality or quantity issues with these aquifers in relation to their uses.

There is not a well-defined aquifer above the proposed depth of mining other than the few heads of the tributaries along the western slopes. A semi-impervious layer of bedrock appears to exist around the elevation of 1000 MSL, resulting in the formation of intermittent stream channels. These tributaries primarily flow for short duration periods, seasonally and following precipitation events. Background sample data at the downstream of these tributary points show highly variable flows with most events recording a zero, or no flow, consistent with the lack of a sustainable upslope aquifer. This aquifer is internal to the Lock Haven formation and has no local current uses. This is the only identified aquifer within the bedrock portion of this mining permit.

Upon the valley floor of the Chemung River floodplain sand and gravel is proposed to be mined. Saturated conditions exist at approximately 755 MSL, on average within 20 feet of the ground surface across this area. Mining is proposed below the groundwater table to a depth of approximately 720 MSL. No pumping is proposed, and the groundwater table will not be altered by the removal of sand and gravel. This aquifer represents the regional groundwater system which flow locally in a SSE direction. This aquifer supplies private water wells mainly to the north and northwest (upstream) of the proposed permit area. Sediment will not be introduced to the groundwater system as it is already present. Although the sand and gravel of the valley fill contains a certain amount of fines, the composite material is still a very good natural filtrating medium. If these fines were capable of free migration through the deposit the suspended solids values in the water supply wells would be elevated. This is not the case. The process of dredging will temporarily liberate silt and clay sized particles into suspension as the material is disturbed, but these solids will settle out in the open pit very much like the process in sediment ponds. Those particles that do migrate to the lateral perimeter of the open impoundment will be captured and sequestered by the undisturbed corridor between the open pit and private water supplies. Also, the gradient of flow through this area would move suspended particles to the southeast, away from all but well 1A. An undisturbed corridor of approximately 200 feet will be maintained between the impoundment and well 1A. Although this well is not anticipated to be impacted it is part of the monitoring program and should be capable of providing evidence of subtle changes attributable to mining over the long term life of mine. In the event that impacts were recognized in this well the operator would be responsible for the installation of treatment equipment (filtering) to adequately address the situation.

As published in Water Resources Report 68 – Hydrology and Groundwater Quality of the Glaciated Valleys of Bradford, Tioga, and Potter Counties, Pennsylvania, median values for parameters which are typically tested form mining activities are consistent with actual data from localized testing despite the report covering a very broad area spread over three counties.

Other than slightly elevated iron concentrations, this aquifer has no other know quality issues. Concentrations of 0.20-0.40 mg/l are typical as seen in both surface and well samples 1A, 103A and 104-1A, with periodic excursions above 1.0 mg/l, most likely from suspended solids of rust in overland flow. An iron removal system is reported on well 107-1 but the majority of respondents report no treatment systems, including wells 1A and 104A, who have reported iron staining. Manganese concentrations of <0.10 have been observed in the wells tested.

Moving out of the valley and into the western hard rock slopes groundwater quality changes slightly as pH and alkalinity values are slightly lower, resulting in a closer to neutral water. A significant drop in specific conductance in the upland hydrology is likely the result of the local bedrock having fewer dissolvable constituents than what has been introduced to the broad area of the Chemung watershed. Metals appear to be relatively consistent between the two systems.

- b) Describe the groundwater movement and the conditions that control and influence the groundwater system. Include the influence on quantity and quality from underground mines, industrial or municipal effects, fracture zones, faults, karst features and cave systems. Provide a groundwater contour map, if suitable.

There are no known underground mines, caves, or karst features to influence the infiltration or movement of groundwater in the upland areas of this permit area. Infiltration and movement will result from the paths of least resistance, and gravity. The natural tendency of downward infiltration is affected laterally by the porosity of the strata, fractures within, and bedding surfaces/joints.

Groundwater movement within the regional Chemung River valley is being directed southeasterly between the valley walls and floor. Movement is affected primarily in a longitudinal fashion by the porosity of the sediments that have been deposited within the valley.

- c) Identify the effects any current or previous mining (including previous mining at this site) has had on the quantity and quality of the groundwater in the area, including impacts from diminution, increased turbidity, suspended solids or settleable solids. Include description of the source, rock unit involved and the reasons for the effect.

The effects of previous mining in this area are unknown as very limited mining has occurred, and pre-mining water data is not available. Previous mining has consisted of the removal of a very small volume of rock for local construction projects. Site observations have not identified any obvious impacts to the quantity or quality of groundwater from the mining area.

8.4 Characterization of Surface Water [§§ 77.406 77.457 and 77.521]

- a) Identify each stream receiving drainage from the proposed operation and the 25 Pa Code Chapter 93 projected water use classification.

| <u>Stream</u> | <u>Classification</u> |
|---|-----------------------|
| UNT's to Tutelow Creek, Tutelow Creek, Chemung River, Susquehanna River | WWF-MF |

- b) Identify the effects which current or previous mining (including previous mining at this site) has had on the quantity and quality of the surface waters in this area, including impacts from increased turbidity, suspended solids or settleable solids. Include the source, rock unit involved, and reasons for the effect.

The effects of previous mining in this area are unknown as limited mining has occurred, and pre-mining water data is not available. Previous mining has consisted of the removal of a very small volume of rock. Site observations have not identified any obvious impacts to the quantity or quality of surface waters from the mining area.

- c) Identify any current or previous land uses that may have significant impacts on surface water quantity and quality.

There are no known current or previous landuses affecting surface water quality or quantity within the permit area. Upriver development to the north of this permit area has likely had a minor impact to local surface waters as much naturally vegetated land has been converted to lands supporting commercial and industrial activities, thereby accelerating runoff across less impervious surfaces. The Chemung River has also likely been impacted by the development and growth of the town of Sayre to the east through unintentional increased runoff and polluttional discharges.

Overall, water quality of this area is fairly good with low sulfates (typically under 20 mg/l), low metals (with the exception of higher iron concentrations during periods of increased suspended solids), and pH values of 7.0-8.9 (with the exception of values measured as high as 10.22 at UNT 4 pond outfall – low to no flow).

8.5 Public Water Supply Information.

Provide the name, type, and location of all current public (community and non-community) surface water supplies that have intakes on the receiving stream within 10 miles downstream of the proposed permit area; public (community and non-community) water supplies (wells or springs) in or within one half mile of the proposed permit area; and public water supply wells for which any part of the permit area is within the Wellhead Protection Zone. Show the location of these supplies on Exhibit 6.1 or 6.2.

There are no identified public water supply intakes located on surface waters, within 10 miles downstream of this proposed operation. There are no known public (community or non-community) wells or springs located within one half mile of this site, nor any public water supply wells for which this site is within the Wellhead Protection Zone.

An Aqua American public water distribution line is located north of the permit area along Meadowlark Drive as shown on the Exhibit maps. Some of the adjacent properties are connected to public water as noted.

8.6 Hydrologic Impact Assessment [§ 77.457 and 77.521]

- a) Describe the groundwater hydrology in relation to the proposed mining operation (at maximum depth and lateral development) - i.e. - intercept regional water table, above regional water table, intercept perched water table, etc. State if and when groundwater will be intercepted (e.g., mining below the water table, installation of a production well for support or processing facilities). Include the depth to groundwater and the water table conditions present (artesian, regional, perched, etc.), the relationship to the mineral to be mined.

Minimal groundwater will be intercepted within the upland hard rock portion of this operation, due to the tight nature of the beds to be mined and the relatively steep slopes that shed precipitation rapidly. There are no known uses of this minor aquifer.

Mining on the valley floor for sand and gravel will intercept the regional groundwater system associated with the Chemung River valley. The removal of sand and gravel is proposed below a water table with a fluctuating surface elevation of approximately 750-755 MSL. No attempt will be made to dewater the sand and gravel pit as saturated conditions exist and the use of dredging equipment will be required. Mining is proposed to an elevation of approximately 720 MSL.

- b) Describe the probable hydrologic consequences of the proposed mining activities on the hydrologic system of the permit area and adjacent area both during the stages of and after the conclusion of operations. Describe the impact, during and after mining, on existing quantity and quality of the surface and groundwater as described in Sections 8.3 and 8.4.

Mining will have little effect on the hydrologic system of the hard rock portion of the permit area as very little groundwater will be entering the pit area. Surface water entering disturbed areas will not negatively react with exposed bedrock as the rock formations present are not known to contain acidic conditions where natural minerals would form toxic conditions, but runoff will likely have periodic opportunity to pick up suspended solids. This water will be captured and conveyed to appropriate erosion and sedimentation facilities prior to being discharged from the site. Discharged water will meet the effluent standards identified in the conditions of the permit.

Mining of the sand and gravel will primarily occur below the surface of the water table as this is where the majority of the reserves are located. Surface disturbances associated with this phase of mining will be directed to an internal pit which will transform into an open impoundment. No water will discharge overland from this phase of mining. Groundwater flow through this portion of the mining area has a very shallow gradient traveling from NNW to SSE through the Chemung River valley. This material is chemically inert from the weathering and transportation process that were involved with the creation and placement of this deposit. An increase in turbidity will likely occur within the open water impoundment as agitation of the fine silt and clay sized particles will be present during excavation and processing of the raw sediments. These settleable solids will drop out of suspension within the open water impoundment, much the same as they would in a sediment pond. Any sediment not dropping out of suspension will be removed from groundwater transport as the particle reaches the downstream undisturbed sand and gravel where it will be filtered out.

The proposed mining will not create hydrologic consequences greater than those historic activities which have been occurring on this and adjacent lands (ie agricultural, commercial, industrial and residential activities).

- c) Is pumping of groundwater planned within the life of the operation. Yes No.

If yes, indicate the estimated gallons/day to be pumped for each stage of mining. Submit a science-based estimate of the zone of influence for each proposed stage of the operation. This may require a groundwater model to be developed using existing aquifer data as well as collecting new data, tracer tests or fracture trace analysis. Provide all documentation for the modeling. Use of groundwater modeling may be required to support the discussion of potential effects of groundwater withdrawal if the withdrawal has the potential to adversely impact water supplies, wetlands and other water resources and their affiliated uses, or if the withdrawal has the potential to cause or exacerbate sinkhole formation (See section 8.7). (Key groundwater elevations to cross-sections in 7.1 (c).)

N/A

NOTE: Operations in karst geology areas may be required to complete the *Karst Permitting Supplement* ([5600-PM-BMP0456](#)) in addition to supplying this information.

8.7. Water Supply Replacement [§§ 77.407 and 77.533]

- a) Identify water supply sources that may be contaminated, diminished or interrupted by the mining operation and the means to restore or replace the affected supply. Include a demonstration that the quantity of the water supply will be sufficient to meet the needs of the water supply use. Note why other water supplies will not be affected.

All water supplies within the area surrounding this proposed mining are utilizing the regional Chemung River valley aquifer. With the exception of well 1A, all wells are located to the north (upstream) of this operation, and could not be impacted by increased turbidity as disturbed sediments will not migrate upslope. An undisturbed column of sand and gravel, of at least 100', will be maintained from well 1A to sand and gravel mining. This setback will allow for both safety of the residence as well as provide a filtering medium preventing turbidity from reaching the well column.

The creation of water impoundments will result from the removal of sand and gravel below the water table elevation. No net loss or gain of groundwater will occur by the removal of sand and gravel. Since the water table surface is not flat but on a very shallow sloping grade, as shown on the Exhibit 6.2, the creation of an impoundment will flatten the water table to a common elevation across the exposed portion. This will result in the depression of the water table surface along the northern border of the impoundment but only on the order of 2-3 feet, and only along the immediate perimeter where a subdued water table surface will transition into the undisturbed water surface to the north. Seasonal fluctuations in the water table surface, in excess of 6 feet, have been measured within well 104-1A. All wells within this valley are subject to these seasonal changes which is far greater than any changes predicted along the immediate boundary of the mining area.

No contamination, diminishment, or interruption will occur to any of these water supplies from the mining on this operation.

There are no water supplies located within close proximity downstream of this proposed mine.

- b) Provide a specific capacity, step-drawdown, or other approved yield test for all water supplies that may be impacted by mining and for each proposed replacement supply source. Yield tests on other wells are at the discretion of the applicant or as requested by the Department. Provide specific capacity data on Module 8.6(A). Please refer to the guidance document, "Procedures for Establishing the Quantity of Water in Low-Yield Wells" (TGD # 563-2112-606) for methods.

N/A

- c) Provide the existing operation and maintenance costs for each water supply that may be contaminated, diminished or interrupted by the mining operation and the projected operation and maintenance costs for the proposed replacement supply.

N/A

- d) If the operation and maintenance costs for the proposed replacement water supply will be more than for the existing water supply, identify the provisions for compensating the water supply owner for the increased costs or provide the consent to Lesser Water Supply Agreement Form 5600-FM-BMP0110 for the increased operation/maintenance costs.

N/A

References:

Pennsylvania Department of Conservation of Natural Resources, PaGWIS - Water Well Data
<https://www.dcnr.pa.gov/Conservation/Water/Groundwater/PAGroundwaterInformationSystem/Pages/default.aspx>

Pennsylvania Department of Environmental Protection, eMapPA Layers, Regulated Facilities and Related Information,
<http://www.depgis.state.pa.us/emappa/>

Pennsylvania Department of Conservation of Natural Resources, Water Resource Report 68 – Hydrology and Groundwater Quality of The Glaciated Valleys of Bradford, Tioga, and Potter Counties, Pennsylvania, Table 10, page 35 & Table 21, page 68

Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5711
August 23, 2021

Arthur Forest Jr
1410 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-100 (1410 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for your property. If you have any questions, contact me at your convenience to discuss. I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
Stamped return envelope

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Tract Engineering, PLLC
120 Ridge Avenue, State College PA 16803

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www.TractLLC.com

Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5728

August 23, 2021

Bud George Rosh
4608 Mile Lane Road
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-101 (1460 & 1478 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5735

August 23, 2021

Marvin F Miller
1701 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-106 & 9-20-108 (1701 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5742

August 23, 2021

David Martz
48 Markham Road
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-107 (48 Markham Road)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5759

August 23, 2021

Gregg Ward
1517 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-105; 9-20-107-1; & 9-20-107-3 (1517 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5766

August 23, 2021

Erin Wheeler
1449 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-107-2 (1449 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5773

August 23, 2021

Joseph Dabroski
1739 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-109 (1739 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5780

August 23, 2021

William Sutton
5195 Mile Lane Road
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-111 (49 Precision Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Certified Mail 7020 2450 0001 9349 5797

August 23, 2021

Edward A Carolin
47 Neason Road
Chemung NY 14825

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-111-1 (133 Markham Road)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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August 23, 2021

Athens Township
45 Herrick Avenue
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-23 & 9-20-24 (Round Top Park)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Certified Mail 7020 2450 0001 9349 5810

August 23, 2021

Richard Simonds
736 Weaver Road
Athens PA 18810

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-73 (736 Weaver Road)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
Stamped return envelope

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Certified Mail 7020 2450 0001 9349 5827

August 23, 2021

Eileen Sparduti
972 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-94 (972 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5834

August 23, 2021

Daniel Blackman
1072 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-96 (1072 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
Stamped return envelope

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Tract Engineering, PLLC
120 Ridge Avenue, State College PA 16803

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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5841

August 23, 2021

Roberta Blanchard
1334 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-97 (1334 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
Stamped return envelope

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Tract Engineering, PLLC
120 Ridge Avenue, State College PA 16803

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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 5858

August 23, 2021

Robert Blow
1339 Meadowlark Drive
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-98 (21 Markham Road & 1339 Meadowlark Drive)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
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Tract Engineering, PLLC
120 Ridge Avenue, State College PA 16803

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Tract Engineering, PLLC

Certified Mail 7020 2450 0001 9349 9504

August 23, 2021

Douglas Elsbree
65 Markham Road
Sayre PA 18840

Re: Water Quality Monitoring
Surface Mine Permit Application
Athens Township, Bradford County, Pennsylvania

Dear Sir/Madam:

Your tax parcel located in Athens Township, Bradford County is within 1000 feet of a proposed surface mine application by Bishop Brothers Construction Company, Inc. to the Pennsylvania Department of Environmental Protection. As part of the application process, Tract Engineering, PLLC will be collecting and analyzing water supplies within 1000 feet of the proposed surface mine permit boundary.

Tax Parcel:
9-20-99 (65 Markham Road)

Please complete and return the attached Residential Water Supply Inventory for each property. If you have any questions, contact me at your convenience to discuss. If possible, I would like to schedule a time to meet at your property to obtain a water sample for analysis.

Should you have any questions, please contact me anytime at (814) 221-0118.

Tract Engineering, PLLC

/s Timothy S. Gourley

Timothy S. Gourley, P.E.

encl. Residential Water Supply Inventory
Stamped return envelope

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120 Ridge Avenue, State College PA 16803

814-272-0301
www.TractLLC.com

RESIDENTIAL WATER SUPPLY INVENTORY

| | | |
|---|--------------------------------|---------------------------------------|
| DATE | Minard Mine | |
| (1) Person Completing From: | (2a) Well | (2b) Spring |
| Owner: _____ | Drilled or Dug | Springhouse / Cistern / Vault / Other |
| Address: _____ | Date Drilled: _____ | Flow: _____ |
| | Drilled By: _____ | Overflow Pipe Accessible? Yes or no |
| Phone: _____ | Well Depth: _____ | Overflow Type: _____ " pipe or other |
| | Casing Depth: _____ | Overflow dimensions: _____ |
| | Casing Size: _____ Type: _____ | Gravity fed: _____ Pumped: _____ |
| | Casing above Ground: _____ | Reservior Dimen: _____ |
| | Submersible or Jet Pump | Submersible or Jet Pump |
| (3) Reported Quality | (4) Treatment | |
| No Yes Comments | Type | Installed by, Date |
| Staining _____ | None _____ | |
| Bad taste _____ | Softener _____ | |
| Odor _____ | Iron removal _____ | |
| Cloudiness _____ | Charcoal Filter _____ | |
| Oily film _____ | pH Adjustment _____ | |
| Ever go dry? _____ | Other _____ | |
| (5) Comments: _____ _____ _____ _____ _____ _____ | | |
| (6) Sketch: water supply in relation to structure/road/etc | | |

Any questions, please call 814-221-0118

7020 2450 0001 9349 5711

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Arthur Forest Jr
1410 Meadowlark Drive
Sayre PA 18840



9590 9402 6273 0274 6279 52

Article Number (Transfer from service label)
7020 2450 0001 9349 5711

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *CO19*

B. Received by (Printed Name)
RL

C. Date of Delivery
8/15

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

Adult Signature

Adult Signature Restricted Delivery

Certified Mail®

Certified Mail Restricted Delivery

Collect on Delivery

Collect on Delivery Restricted Delivery

Priority Mail Express®

Registered Mail™

Registered Mail Restricted Delivery

Signature Confirmation™

Signature Confirmation Restricted Delivery

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$0.00

Certified Mail Restricted Delivery \$0.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To
Arthur Forest Jr
1410 Meadowlark Drive
Sayre PA 18840

City, State, ZIP+4®

Postmark Here
AUG 23 2021

7020 2450 0001 9349 5728

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Bud George Rosh
4608 Mile Lane Road
Sayre PA 18840



9590 9402 6273 0274 6279 45

Article Number (Transfer from service label)
7020 2450 0001 9349 5728

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *CO19*

B. Received by (Printed Name)
RL

C. Date of Delivery
8/15

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

Adult Signature

Adult Signature Restricted Delivery

Certified Mail®

Certified Mail Restricted Delivery

Collect on Delivery

Collect on Delivery Restricted Delivery

Priority Mail Express®

Registered Mail™

Registered Mail Restricted Delivery

Signature Confirmation™

Signature Confirmation Restricted Delivery

U.S. Postal Service™
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Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$0.00

Certified Mail Restricted Delivery \$0.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To
Bud George Rosh
4608 Mile Lane Road
Sayre PA 18840

City, State, ZIP+4®

Postmark Here
AUG 23 2021

7020 2450 0001 9349 5735

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Marvin F Miller
1701 Meadowlark Drive
Sayre PA 18840



9590 9402 6273 0274 6279 38

Article Number (Transfer from service label)
7020 2450 0001 9349 5735

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *CO19*

B. Received by (Printed Name)
RL

C. Date of Delivery
8/15

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

3. Service Type

Adult Signature

Adult Signature Restricted Delivery

Certified Mail®

Certified Mail Restricted Delivery

Collect on Delivery

Collect on Delivery Restricted Delivery

Priority Mail Express®

Registered Mail™

Registered Mail Restricted Delivery

Signature Confirmation™

Signature Confirmation Restricted Delivery

U.S. Postal Service™
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For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.50

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$0.00

Certified Mail Restricted Delivery \$0.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To
Marvin F Miller
1701 Meadowlark Drive
Sayre PA 18840

City, State, ZIP+4®

Postmark Here
AUG 23 2021

7020 2450 0001 9349 5742

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**
Domestic Mail Only

For delivery information, visit our website at www.usps.com

50 OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.10

Return Receipt (electronic) \$0.00

Certified Mail Restricted Delivery \$11.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.00

Sent To: David Martz
48 Markham Road
Sayre PA 18840

Postmark Here
AUG 23 2021

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

David Martz
48 Markham Road
Sayre PA 18840

2. Article Number (Transfer from service label)
7020 2450 0001 9349 5742

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]*

B. Received by (Printed Name)
[Signature]

C. Date of Delivery
8/23/21

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

Agent
 Address

Priority Mail Express®
 Registered Mail™
 Registered Mail Restrict Delivery
 Signature Confirmation
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

7020 2450 0001 9349 5759

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**
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For delivery information, visit our website at www.usps.com

50 OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.10

Return Receipt (electronic) \$0.00

Certified Mail Restricted Delivery \$11.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.00

Sent To: Gregg Ward
1517 Meadowlark Drive
Sayre PA 18840

Postmark Here
AUG 23 2021

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Gregg Ward
1517 Meadowlark Drive
Sayre PA 18840

2. Article Number (Transfer from service label)
7020 2450 0001 9349 5759

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]*

B. Received by (Printed Name)
GREGG WARD

C. Date of Delivery
8-20-21

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

Agent
 Address

Priority Mail Express®
 Registered Mail™
 Registered Mail Restrict Delivery
 Signature Confirmation
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

7020 2450 0001 9349 5766

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**
Domestic Mail Only

For delivery information, visit our website at www.usps.com

50 OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.10

Return Receipt (electronic) \$0.00

Certified Mail Restricted Delivery \$11.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.00

Sent To: Erin Wheeler
1449 Meadowlark Drive
Sayre PA 18840

Postmark Here
AUG 23 2021

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
■ Print your name and address on the reverse so that we can return the card to you.
■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Erin Wheeler
1449 Meadowlark Drive
Sayre PA 18840

2. Article Number (Transfer from service label)
7020 2450 0001 9349 5766

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]*

B. Received by (Printed Name)
[Signature]

C. Date of Delivery
8/23

D. Is delivery address different from item 1? Yes
If YES, enter delivery address below: No

Agent
 Address

Priority Mail Express®
 Registered Mail™
 Registered Mail Restrict Delivery
 Signature Confirmation
 Signature Confirmation Restricted Delivery

Domestic Return Receipt

7020 2450 0001 9349 5773

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Joseph Dabroski
1739 Meadowlark Drive
Sayre PA 18840



9590 9402 6273 0274 6279 76

2. Article Number (Transfer from service label)

7020 2450 0001 9349 5773

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *COA*

- Agent
- Addressee

B. Received by (Printed Name)

COA

C. Date of Delivery

8/25

D. Is delivery address different from item 1? If YES, enter delivery address below:

- Yes
- No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Restricted Delivery

Domestic Return Receipt

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$1.00

Certified Mail Restricted Delivery \$1.00

Adult Signature Required \$2.00

Adult Signature Restricted Delivery \$2.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Joseph Dabroski
1739 Meadowlark Drive
Sayre PA 18840

Street and Apt. No.:
City, State, ZIP+4®

Postmark Here

PA 18840

7020 2450 0001 9349 5780

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

William Sutton
5195 Mile Lane Road
Sayre PA 18840



9590 9402 6273 0274 6279 69

2. Article Number (Transfer from service label)

7020 2450 0001 9349 5780

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *CS*

- Agent
- Addressee

B. Received by (Printed Name)

CS

C. Date of Delivery

8/26

D. Is delivery address different from item 1? If YES, enter delivery address below:

- Yes
- No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Restricted Delivery

Domestic Return Receipt

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$1.00

Certified Mail Restricted Delivery \$1.00

Adult Signature Required \$2.00

Adult Signature Restricted Delivery \$2.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: William Sutton
5195 Mile Lane Road
Sayre PA 18840

Street and Apt. No.:
City, State, ZIP+4®

Postmark Here

PA 18840

7020 2450 0001 9349 5797

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Edward A Carolin
47 Neason Road
Chemung, NY 14825



9590 9402 6194 0220 3854 80

2. Article Number (Transfer from service label)

7020 2450 0001 9349 5797

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature

X *E. Carolin*

- Agent
- Addressee

B. Received by (Printed Name)

ED CAROLIN

C. Date of Delivery

8-26-21

D. Is delivery address different from item 1? If YES, enter delivery address below:

- Yes
- No

3. Service Type

- Adult Signature
- Adult Signature Restricted Delivery
- Certified Mail®
- Certified Mail Restricted Delivery
- Collect on Delivery
- Collect on Delivery Restricted Delivery
- Priority Mail Express®
- Registered Mail™
- Registered Mail Restricted Delivery
- Signature Confirmation™
- Signature Confirmation Restricted Delivery

Restricted Delivery

Domestic Return Receipt

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$1.00

Certified Mail Restricted Delivery \$1.00

Adult Signature Required \$2.00

Adult Signature Restricted Delivery \$2.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Edward A Carolin
47 Neason Road
Chemung, NY 14825

Street and Apt. No.:
City, State, ZIP+4®

Postmark Here

PA 18840

7020 2450 0001 9349 5803

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com

Save OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.10

Return Receipt (electronic) \$0.10

Certified Mail Restricted Delivery \$4.40

Adult Signature Required \$3.10

Adult Signature Restricted Delivery \$4.00

Postage \$0.55

Total Postage and Fees \$7.00

Sent To: Athens, TN
 Street and Apt. No., ZIP+4®: 45 HERRICK AVE
 City, State, ZIP+4®: SAYRE PA 38840

Postmark Here: Athens TN 08/23/2021

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
 ■ Print your name and address on the reverse so that we can return the card to you.
 ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Athens - TN
 45 HERRICK AVE
 SAYRE PA 38840

2. Article Number (Transfer from service label)
 7020 2450 0001 9349 5803

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery

Barcode: 9590 9402 6194 0220 3854 73

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X M. Rude Agent Addressed

B. Received by (Printed Name)
 C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Restricted Delivery (over \$500)

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

7020 2450 0001 9349 5810

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com

Save OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.10

Return Receipt (electronic) \$0.10

Certified Mail Restricted Delivery \$4.40

Adult Signature Required \$3.10

Adult Signature Restricted Delivery \$4.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Richard G Simonds
 Street and Apt. No., ZIP+4®: 736 Weaver Road
 City, State, ZIP+4®: Athens PA 18810

Postmark Here: Athens TN 08/23/2021

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
 ■ Print your name and address on the reverse so that we can return the card to you.
 ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Richard G Simonds
 736 Weaver Road
 Athens PA 18810

2. Article Number (Transfer from service label)
 7020 2450 0001 9349 5810

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery

Barcode: 9590 9402 6194 0220 3854 66

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X M Simonds Agent Addressed

B. Received by (Printed Name)
 DG COV 19 C. Date of Delivery 8-25

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Restricted Delivery (over \$500)

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

7020 2450 0001 9349 5827

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com

Save OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.10

Return Receipt (electronic) \$0.10

Certified Mail Restricted Delivery \$4.40

Adult Signature Required \$3.10

Adult Signature Restricted Delivery \$4.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Eileen Sparduti
 Street and Apt. No., ZIP+4®: 972 Meadowlark Drive
 City, State, ZIP+4®: Sayre PA 18840

Postmark Here: Athens TN 08/23/2021

SENDER: COMPLETE THIS SECTION

■ Complete items 1, 2, and 3.
 ■ Print your name and address on the reverse so that we can return the card to you.
 ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
 Eileen Sparduti
 972 Meadowlark Drive
 Sayre PA 18840

2. Article Number (Transfer from service label)
 7020 2450 0001 9349 5827

3. Service Type
 Adult Signature
 Adult Signature Restricted Delivery
 Certified Mail®
 Certified Mail Restricted Delivery
 Collect on Delivery
 Collect on Delivery Restricted Delivery

Barcode: 9590 9402 6194 0220 3854 97

COMPLETE THIS SECTION ON DELIVERY

A. Signature
 X COG Agent Addressed

B. Received by (Printed Name)
 C. Date of Delivery

D. Is delivery address different from item 1? Yes
 If YES, enter delivery address below: No

3. Service Type
 Priority Mail Express®
 Registered Mail™
 Registered Mail Restricted Delivery
 Signature Confirmation™
 Signature Confirmation Restricted Delivery

Restricted Delivery (over \$500)

PS Form 3811, July 2020 PSN 7530-02-000-9053

Domestic Return Receipt

7020 2450 0001 9349 5834

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Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$1.00

Certified Mail Restricted Delivery \$4.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Daniel Blackman
1072 Meadowlark Drive
Sayre PA 18840

Postmark Here

08/26/2021 16:01

SENDER: COMPLETE THIS SECTION

1. Complete items 1, 2, and 3.

2. Print your name and address on the reverse so that we can return the card to you.

3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Daniel Blackman
1072 Meadowlark Drive
Sayre PA 18840

9590 9402 6194 0220 3855 34

Article Number (Transfer from service label)
7020 2450 0001 9349 5834

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* Agent Addressee

B. Received by (Printed Name)
Kristi Blackman

C. Date of Delivery
8-26-21

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type
 Adult Signature Priority Mail Express®
 Adult Signature Restricted Delivery Registered Mail™
 Certified Mail® Registered Mail Restricted Delivery
 Certified Mail Restricted Delivery Signature Confirmation™
 Collect on Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery Restricted Delivery Insured Mail™

Domestic Return Receipt

7020 2450 0001 9349 5841

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**
Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$1.00

Certified Mail Restricted Delivery \$4.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Roberta Blanchard
1334 Meadowlark Drive
Sayre PA 18840

Postmark Here

08/25/2021 16:01

SENDER: COMPLETE THIS SECTION

1. Complete items 1, 2, and 3.

2. Print your name and address on the reverse so that we can return the card to you.

3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Roberta Blanchard
1334 Meadowlark Drive
Sayre PA 18840

9590 9402 6194 0220 3855 27

Article Number (Transfer from service label)
7020 2450 0001 9349 5841

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* Agent Addressee

B. Received by (Printed Name)
[Signature]

C. Date of Delivery
8-17-21

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type
 Adult Signature Priority Mail Express®
 Adult Signature Restricted Delivery Registered Mail™
 Certified Mail® Registered Mail Restricted Delivery
 Certified Mail Restricted Delivery Signature Confirmation™
 Collect on Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery Restricted Delivery Insured Mail™

Restricted Delivery

Domestic Return Receipt

7020 2450 0001 9349 5858

**U.S. Postal Service™
CERTIFIED MAIL® RECEIPT**
Domestic Mail Only

For delivery information, visit our website at www.usps.com

OFFICIAL USE

Certified Mail Fee \$3.60

Extra Services & Fees (check box, add fee as appropriate)

Return Receipt (hardcopy) \$1.00

Return Receipt (electronic) \$1.00

Certified Mail Restricted Delivery \$4.00

Adult Signature Required \$0.00

Adult Signature Restricted Delivery \$0.00

Postage \$0.55

Total Postage and Fees \$7.10

Sent To: Robert Blow
1339 Meadowlark Drive
Sayre PA 18840

Postmark Here

08/22/2021 16:01

SENDER: COMPLETE THIS SECTION

1. Complete items 1, 2, and 3.

2. Print your name and address on the reverse so that we can return the card to you.

3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Robert Blow
1339 Meadowlark Drive
Sayre PA 18840

9590 9402 6194 0220 3855 10

Article Number (Transfer from service label)
7020 2450 0001 9349 5858

PS Form 3811, July 2020 PSN 7530-02-000-9053

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X *[Signature]* Agent Addressee

B. Received by (Printed Name)
[Signature]

C. Date of Delivery
8-26-21

D. Is delivery address different from item 1? Yes No
If YES, enter delivery address below:

3. Service Type
 Adult Signature Priority Mail Express®
 Adult Signature Restricted Delivery Registered Mail™
 Certified Mail® Registered Mail Restricted Delivery
 Certified Mail Restricted Delivery Signature Confirmation™
 Collect on Delivery Signature Confirmation Restricted Delivery
 Collect on Delivery Restricted Delivery Insured Mail™

Restricted Delivery

Domestic Return Receipt

Tract Engineering, PLLC
120 Ridge Avenue
State College, PA 16803

63

CERTIFIED MAIL®



7020 2450 0001 9349 9504

JOHNSTOWN, PA 1550
23 AUG 2021 PM 1 L

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Douglas Elsbree
Markham Road

RETURN TO SENDER

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 INSUFFICIENT ADDRESS
 NO MAIL RECEPTACLE
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 MLMA - UNABLE TO FORWARD
 UNDELIVERABLE AS ADDRESSED

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 VACANT

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18840

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| Extra Services & Fees (check box, add fee as appropriate) | | |
| <input type="checkbox"/> Return Receipt (hardcopy) | \$11.95 | |
| <input type="checkbox"/> Return Receipt (electronic) | \$0.00 | |
| <input type="checkbox"/> Certified Mail Restricted Delivery | \$0.00 | |
| <input type="checkbox"/> Adult Signature Required | \$0.60 | |
| <input type="checkbox"/> Adult Signature Restricted Delivery | \$ | |
| Postage | \$40.55 | |
| Total Postage and Fees | \$77.00 | |

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STATE COLLEGE, PA
16801-9504

| | |
|------------------|-----------------|
| Sent To | Douglas Elsbree |
| Street and Apt. | 65 Markham Road |
| City, State, ZIP | Sayre PA 18840 |

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: 1A
 Latitude: 41 58 23.3
 Longitude: 76 33 02.6
 Surface Elevation: 770

Description of Sample Point*: _____
Jennette Minard well

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 03/05/20 | --- | --- | 8.74 | 8.28 | <5 | 349 | 14.1 | 192.69 | -190.55 | 0.37 | 0.09 | --- | 30.4 | 212 | tg, GC 661538 |
| 04/10/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 05/22/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 06/23/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 07/29/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | PROBE | 753.4 | 8.26 | 8.25 | <5 | 353 | 22.3 | 183.32 | -170.29 | 2.19 | 0.09 | --- | <5 | 192 | tg, GC 668754 |
| 09/30/20 | PROBE | 752.6 | 7.64 | 8.28 | <5 | 345 | 20.2 | 166.59 | -150.29 | 0.22 | 0.08 | --- | <5 | 164 | tg, GC 668758 |
| 10/26/20 | PROBE | 752.7 | 7.86 | 8.05 | <5 | 346 | 14.9 | 164.67 | -160.79 | <0.10 | <0.05 | --- | <5 | 178 | tg, GC 671159 |
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I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature of Permittee or Responsible Official or Authorized Representative ***

Date

*** Written notification of delegation of signatory authority must be submitted to the Department if signatory is other than company official. Signature not necessary if this report is submitted as part of the permit application.

* Water Monitoring Report Cover Sheet Form 5600-FM-MR0113 may be used for multiple monitoring point sample submittals.

** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: 1B
 Latitude: 41 58 30.2
 Longitude: 76 33 19.6
 Surface Elevation: 770

Description of Sample Point*: _____
wetland - north central of SMP

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | VISUAL | 0 | --- | 6.39 | 13 | 52 | --- | 12.04 | -1.01 | 0.18 | 0.05 | --- | 15.4 | 26 | tg, GC 660630 |
| 03/05/20 | VISUAL | 0 | 7.87 | 7.19 | 8 | 190 | 11.1 | 77.85 | -60.10 | 1.03 | <0.05 | --- | 12.5 | 128 | tg, GC 661534 |
| 04/10/20 | VISUAL | 0 | 7.98 | 7.25 | <5 | 193 | 7.3 | 76.96 | -47.67 | 0.23 | <0.05 | --- | 9.5 | 114 | tg, GC 663240 |
| 05/22/20 | VISUAL | 0 | --- | 7.08 | 8 | 170 | --- | 76.16 | -59.49 | 1.22 | <0.05 | --- | 10.2 | 100 | tg, GC 665040 |
| 06/23/20 | VISUAL | DRY | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 07/29/20 | VISUAL | DRY | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | VISUAL | DRY | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 09/30/20 | VISUAL | DRY | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 10/26/20 | VISUAL | DRY | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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 Date

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* Water Monitoring Report Cover Sheet Form 5600-FM-MR0113 may be used for multiple monitoring point sample submittals.

** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: 103A
 Latitude: 41 58 39.6
 Longitude: 76 33 05.8
 Surface Elevation: 766

Description of Sample Point*: _____
JDS well

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 07/14/21 | PROBE | 755.8 | 7.83 | 8.12 | <5 | 261 | 20.5 | 127.89 | -121.20 | 0.29 | 0.06 | --- | <5 | 158 | tg, GC 680230 |
| 08/31/21 | PROBE | 755.6 | 7.84 | 8.06 | <5 | 263 | 21.0 | 127.33 | -120.40 | 0.58 | 0.09 | --- | <5 | 156 | tg, GC 682111 |
| 09/23/21 | PROBE | 754.9 | 7.91 | 8.10 | <5 | 260 | 19.3 | 126.26 | -91.05 | 0.21 | <0.05 | --- | <5 | 146 | tg, GC 683194 |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: 104-1A
 Latitude: 41 58 38.8
 Longitude: 76 33 26.3
 Surface Elevation: 782

Description of Sample Point*: _____
Richard Minard well

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 03/05/20 | PROBE | 762.0 | 8.85 | 8.24 | <5 | 287 | 14.2 | 148.73 | -99.29 | 0.42 | 0.07 | --- | 14.2 | 182 | tg, GC 661539 |
| 04/10/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 05/22/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 06/23/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 07/29/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | PROBE | 757.0 | 8.32 | 8.28 | 7 | 295 | 19.0 | 143.38 | -111.10 | 0.28 | 0.08 | --- | <5 | 150 | tg, GC 668755 |
| 09/30/20 | PROBE | 756.1 | 7.74 | 8.31 | 9 | 287 | 16.5 | 140.41 | -136.75 | 0.31 | 0.07 | --- | 5.1 | 152 | tg, GC 669763 |
| 10/26/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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 Date

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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*

(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S1A
 Latitude: 41 57 52.7
 Longitude: 76 32 25.4
 Surface Elevation: 745

Description of Sample Point*: _____
Tutelow Creek - downstream at confluence with
Chemung River

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 10 CFS | --- | 7.62 | 14 | 100 | --- | 26.09 | -20.50 | 0.34 | <0.05 | --- | 9.1 | 50 | tg, GC 660626 |
| 03/05/20 | VISUAL | 0 | 8.62 | 7.90 | <5 | 111 | 8.3 | 22.77 | -11.46 | 0.22 | <0.05 | --- | 12.3 | 84 | tg, GC 661529 |
| 04/10/20 | VISUAL | 0 | 8.89 | 7.77 | <5 | 119 | 7.1 | 33.96 | -26.79 | <0.10 | <0.05 | --- | 9.3 | 70 | tg, GC 663237 |
| 05/22/20 | EST | 4 CFS | --- | 7.57 | <5 | 127 | --- | 44.03 | -35.66 | 0.19 | <0.05 | --- | 8.9 | 90 | tg, GC 665036 |
| 06/23/20 | EST | <1 | 7.62 | 7.80 | 7 | 430 | 24.7 | 219.19 | -197.99 | 0.59 | 0.29 | --- | 18.4 | 256 | tg, GC 666304 |
| 07/29/20 | EST | <1 | 7.91 | 7.92 | 35 | 428 | 28.5 | 219.65 | -212.56 | 1.68 | 0.67 | --- | 11.8 | 228 | tg, GC 667923 |
| 08/25/20 | EST | <1 | 7.94 | 7.91 | 25 | 399 | 26.9 | 191.10 | -181.60 | 1.48 | 0.70 | --- | 10.5 | 214 | tg, GC 668752 |
| 09/30/20 | EST | <<1 | 6.95 | 7.50 | 22 | 353 | 18.7 | 165.48 | -100.60 | 4.51 | 1.02 | --- | 18.8 | 172 | tg, GC 669759 |
| 10/26/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or **MONITORING POINT***
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S1B
 Latitude: 41 58 04.2
 Longitude: 76 32 50.6
 Surface Elevation: 756

Description of Sample Point*: _____
Tutelow Creek at existing crossing

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 10 CFS | --- | 7.63 | 14 | 96 | --- | 61.27 | -56.08 | 1.03 | <0.05 | --- | 11.5 | 60 | tg, GC 660627 |
| 03/05/20 | EST | 7.5 CFS | 8.47 | 7.52 | <5 | 89 | 6.3 | 22.89 | -15.48 | 0.14 | <0.05 | --- | 12.0 | 72 | tg, GC 661532 |
| 04/10/20 | EST | 2.5 CFS | 8.62 | 7.72 | <5 | 107 | 6.4 | 30.37 | -23.84 | <0.10 | <0.05 | --- | 8.6 | 62 | tg, GC 663239 |
| 05/22/20 | EST | 4 CFS | --- | 7.56 | <5 | 97 | --- | 29.47 | -23.25 | 0.19 | <0.05 | --- | 8.1 | 68 | tg, GC 665038 |
| 06/23/20 | EST | <1 | 7.34 | 7.44 | 68 | 194 | 22.7 | 95.31 | -85.70 | 0.90 | 0.5 | --- | 8.2 | 138 | tg, GC 666306 |
| 07/29/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 09/30/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 10/26/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S1C
 Latitude: 41 58 41.7
 Longitude: 76 33 47.1
 Surface Elevation: 784

Description of Sample Point*: _____
Tutelow Creek at T-303 crossing

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 10 CFS | --- | 7.57 | 13 | 104 | -- | 23.99 | -19.10 | 0.45 | <0.05 | --- | 10.8 | 58 | tg, GC 660632 |
| 03/05/20 | EST | 7.5 CFS | 8.42 | 7.54 | <5 | 98 | 6.2 | 25.07 | -19.50 | 0.14 | <0.05 | --- | 8.8 | 74 | tg, GC 661537 |
| 04/10/20 | EST | 2.5 CFS | 8.66 | 7.45 | 8 | 120 | 7.3 | 35.04 | -21.08 | <0.10 | <0.05 | --- | 9.3 | 64 | tg, GC 663242 |
| 05/22/20 | EST | 4 CFS | --- | 6.93 | <5 | 120 | --- | 40.41 | -28.37 | <0.10 | <0.05 | --- | <5 | 102 | tg, GC 665042 |
| 06/23/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 07/29/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 09/30/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 10/26/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*

(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S2A
 Latitude: 41 58 05.0
 Longitude: 76 32 56.4
 Surface Elevation: 776

Description of Sample Point*: _____
UNT 2 to Tutelow Creek

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 50 | --- | 6.89 | 16 | 52 | --- | 10.09 | 3.22 | 0.21 | <0.05 | --- | 12.5 | 26 | tg, GC 660628 |
| 03/05/20 | EST | 15 | 8.60 | 7.33 | <5 | 51 | 6.4 | 10.21 | -6.63 | 0.19 | <0.05 | --- | 12.3 | 60 | tg, GC 661531 |
| 04/10/20 | EST | 40 | 8.45 | 7.44 | 8 | 58 | 5.2 | 13.31 | -9.85 | 0.19 | <0.05 | --- | 9.2 | 46 | tg, GC 663238 |
| 05/22/20 | EST | 30 | --- | 7.47 | 14 | 60 | --- | 14.81 | -10.84 | 0.49 | <0.05 | --- | 12.3 | 42 | tg, GC 665037 |
| 06/23/20 | EST | <1 | 7.52 | 7.83 | 79 | 86 | 20.6 | 26.54 | -19.50 | 0.66 | <0.05 | --- | 13.8 | 58 | tg, GC 666305 |
| 07/29/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 09/30/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 10/26/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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 Date

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* Water Monitoring Report Cover Sheet Form 5600-FM-MR0113 may be used for multiple monitoring point sample submittals.

** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S3A
 Latitude: 41 58 12.8
 Longitude: 76 33 10.1
 Surface Elevation: 764

Description of Sample Point*: _____
UNT 2 to Tutelow Creek

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 3 | --- | 7.30 | 9 | 55 | --- | 11.04 | -4.82 | 0.12 | <0.05 | --- | 12.9 | 39 | tg, GC 660629 |
| 03/05/20 | EST | 1 | 8.51 | 7.29 | <5 | 57 | 5.6 | 11.99 | -8.04 | <0.10 | <0.05 | --- | 13.4 | 56 | tg, GC 661533 |
| 04/10/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 05/22/20 | EST | 3 | --- | 7.43 | <5 | 67 | --- | 15.88 | -8.87 | 0.23 | <0.05 | --- | 11.8 | 47 | tg, GC 665039 |
| 06/23/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 07/29/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 08/25/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 09/30/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
| 10/26/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or **MONITORING POINT***
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S4A
 Latitude: 41 58 23.1
 Longitude: 76 33 30.2
 Surface Elevation: 778

Description of Sample Point*: _____
POND A outfall
(S4A identification was made in error at the start of sampling.)
The identification has not been changed to maintain consistency tracking the samlpe point data.)

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 15 | --- | 6.88 | 7 | 48 | --- | 9.06 | -6.63 | 0.17 | <0.05 | --- | 10.1 | 22 | tg, GC 660631 |
| 03/05/20 | EST | 2 | 8.65 | 6.91 | <5 | 51 | 4.7 | 9.55 | -5.43 | 0.15 | <0.05 | --- | 11.5 | 36 | tg, GC 661535 |
| 04/10/20 | VISUAL | 0 | 10.22 | 8.79 | 6 | 53 | 8.1 | 12.29 | -5.32 | 0.17 | <0.05 | --- | 9.7 | 34 | tg, GC 663241 |
| 05/22/20 | VISUAL | 0 | --- | 7.45 | <5 | 54 | --- | 14.03 | -11.62 | 0.37 | 0.08 | --- | 8.8 | 38 | tg, GC 665041 |
| 06/23/20 | VISUAL | 0 | 9.88 | 7.69 | 17 | 65 | 27.2 | 27.79 | -18.91 | 0.75 | 0.78 | --- | 11.0 | 42 | tg, GC 666307 |
| 07/29/20 | VISUAL | 0 | 8.84 | 7.44 | 14 | 74 | 30.2 | 27.64 | -14.18 | 1.27 | 0.21 | --- | 10.9 | 53 | tg, GC 667925 |
| 08/25/20 | VISUAL | 0 | 9.14 | 7.49 | 21 | 80 | 28.7 | 30.87 | -23.84 | 0.49 | 0.08 | --- | 7.5 | 36 | tg, GC 668753 |
| 09/30/20 | VISUAL | 0 | 8.05 | 7.49 | 16 | 83 | 18.6 | 31.35 | -16.36 | 1.09 | 0.37 | --- | 13.5 | 60 | tg, GC 669761 |
| 10/26/20 | VISUAL | 0 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*

(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S5A
 Latitude: 41 57 53.3
 Longitude: 76 32 24.5
 Surface Elevation: 744

Description of Sample Point*: _____
Chemung River downstream at confluence with
Tutelow Creek

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 4760 CFS | --- | 7.93 | 58 | 262 | --- | 59.31 | -52.26 | 0.40 | <0.05 | --- | 17.3 | 126 | tg, GC 660625 |
| 03/05/20 | EST | 9340 CFS | 8.43 | 7.66 | 86 | 165 | 5.2 | 39.05 | -32.76 | 3.05 | 0.12 | --- | 16.6 | 132 | tg, GC 661530 |
| 04/10/20 | EST | 3190 CFS | 9.00 | 8.05 | 8 | 300 | 11.8 | 67.27 | -56.93 | 0.65 | <0.05 | --- | 27.6 | 174 | tg, GC 663236 |
| 05/22/20 | EST | 2550 CFS | --- | 7.77 | <5 | 344 | --- | 78.71 | -68.95 | 0.55 | <0.05 | --- | 19.1 | 118 | tg, GC 665035 |
| 06/23/20 | EST | 573 CFS | 7.90 | 7.98 | <5 | 516 | 24.3 | 153.08 | -144.40 | 0.14 | <0.05 | --- | 18.6 | 392 | tg, GC 666303 |
| 07/29/20 | EST | 276 CFS | 8.12 | 8.17 | 6 | 657 | 28.0 | 163.82 | -148.74 | 0.17 | <0.05 | --- | 20.2 | 334 | tg, GC 667924 |
| 08/25/20 | EST | 205 CFS | 7.99 | 8.13 | 7 | 728 | 26.8 | 194.06 | -190.49 | 0.12 | <0.05 | --- | 16.9 | 360 | tg, GC 668751 |
| 09/30/20 | EST | 263 CFS | 7.53 | 8.11 | 8 | 748 | 17.8 | 189.03 | -162.00 | 0.12 | <0.05 | --- | 23.9 | 376 | tg, GC 669760 |
| 10/26/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: S5B
 Latitude: 41 59 08.1
 Longitude: 76 33 11.7
 Surface Elevation: 783

Description of Sample Point*: _____
Chemung River upstream at park at Mile Lane Road

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
| 02/13/20 | EST | 4760 CFS | --- | 7.87 | 16 | 262 | --- | 60.46 | -53.67 | 0.74 | 0.05 | --- | 17.5 | 134 | tg, GC 660633 |
| 03/05/20 | EST | 9340 CFS | 8.40 | 7.65 | 110 | 167 | 9.2 | 41.08 | -35.78 | 2.71 | 0.10 | --- | 16.6 | 114 | tg, GC 661536 |
| 04/10/20 | EST | 3190 CFS | 8.24 | 7.98 | 8 | 305 | 7.6 | 68.82 | -59.49 | 0.32 | 0.05 | --- | 26.6 | 162 | tg, GC 663243 |
| 05/22/20 | EST | 2550 CFS | --- | 7.81 | 7 | 342 | --- | 86.30 | -74.86 | 0.65 | 0.06 | --- | 24.3 | 224 | tg, GC 665043 |
| 06/23/20 | EST | 573 CFS | 8.63 | 8.41 | <5 | 460 | 26.2 | 121.98 | -112.29 | 0.17 | <0.05 | --- | 19.3 | 250 | tg, GC 666308 |
| 07/29/20 | EST | 276 CFS | 8.49 | 8.46 | <5 | 484 | 28.1 | 111.65 | -103.43 | 0.23 | <0.05 | --- | 28.3 | 218 | tg, GC 667922 |
| 08/25/20 | EST | 205 CFS | 8.73 | 8.61 | <5 | 539 | 28.5 | 116.79 | -102.01 | 0.14 | <0.05 | --- | 23.6 | 252 | tg, GC 668750 |
| 09/30/20 | EST | 263 CFS | 7.96 | 8.54 | 7 | 544 | 19.5 | 118.13 | -84.64 | 0.10 | <0.10 | --- | 32.1 | 296 | tg, GC 669762 |
| 10/26/20 | NO | SAMPLE | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | tg |
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** Description should include type of sample point, relation to mine site, treatment and other comments (such as odor, color, etc.)

Module 8.1(A)

BACKGROUND or MONITORING POINT*
(check appropriate box)

Operator: Bishop Brothers Const. Co. Inc.
 Operation Name: Minard
 Permit No: _____
 Township: Athens
 County: Bradford

Monitoring Point ID: 001
 Latitude: 41 58 01.1
 Longitude: 76 32 42.8
 Surface Elevation: 750

Description of Sample Point*: _____
NPDES discharge point 001

Instructions: Use a separate sheet for each sample point and list results consecutively by date.

| Date Sampled | Method of Flow Measurement | Flow (GPM) or Static Water Elevation | Field pH | Laboratory pH | Suspended Solids mg/l | Specific Conductance (micromhos) @ 25 C | Field Temperature C | Alkalinity mg/l | Acidity mg/l | Iron mg/l | Manganese mg/l | Aluminum mg/l | Sulfate mg/l | Total Dissolved Solids mg/l | Laboratory and Name of Sampler |
|--------------|----------------------------|--------------------------------------|----------|---------------|-----------------------|---|---------------------|-----------------|--------------|-----------|----------------|---------------|--------------|-----------------------------|--------------------------------|
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