



Volume 33

SUSQUEHANNA SIDETRACKS



An Official Publication of the Susquehanna Division 11
Mid-Eastern Region of the NMRA

Number 2

Modeling the Central Pennsylvania Scotia Iron Works in the 19th Century

Jerry Lauchle, MMR

This project was undertaken for the Centre County Historical Society, State College, PA.

All photos are by the author unless otherwise noted.

A Brief History

- The first inhabitants of central Pennsylvania were the Shawnee Indians, who settled there in the 1600's.
- The area they lived in was sandy and had extreme temperature shifts from day to night; thus, their crops did not grow very well.
- The Shawnees named that area (approximately 20 square miles) the "Barrens".
- The Commonwealth of Pennsylvania purchased all of the land the Shawnees inhabited between 1764 and 1768.
- The Barrens and surrounding areas were settled after the land surveys were completed in the late 1770's.
- The surveyors made note of strange deposits of clay and sand.
- It was later discovered that iron ore was under those formations.
- Moses Thompson was Centre County's most prominent landowner and ironmaster.
- Homesteaders in the area began digging the iron ore and carting it to Moses Thompson's Centre Furnace, several miles away near present day State College.



Moses Thompson's Centre Furnace Operation

Centre County Historical Society Collection

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Architect's rendering of the proposed Susquehanna River Bridge (Amtrak) Project.

Superintendent's Desk

Here I go again with another superintendent's report. I hope you were able to attend our January meet in Mechanicsburg. New member, Kevin Macomber gave a very enlightening clinic on scratchbuilding structures using card stock (AKA Cheerios boxes). His work is fantastic, and he details the interiors of many of his structures.

Jerry Lauchle, MMR gave an enlightening clinic on Modeling an Iron Ore Steam Excavator. The prototype was used in Centre County, Pennsylvania.

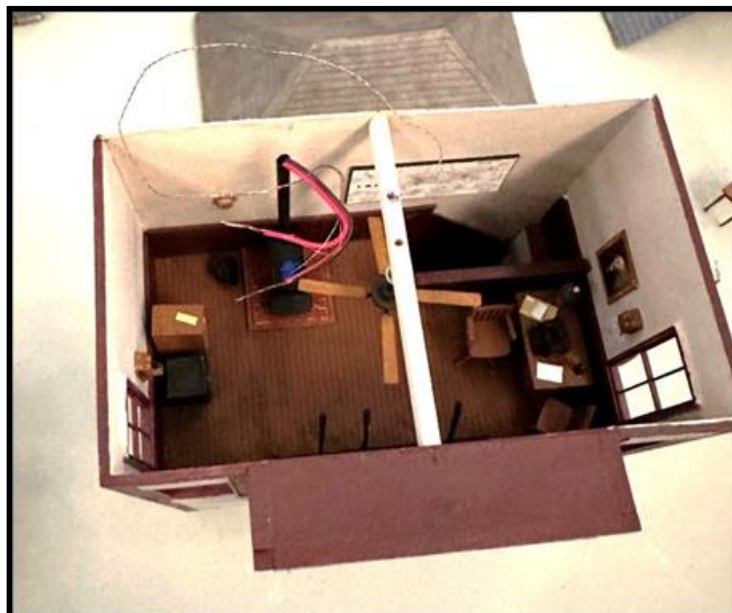
We also had our second annual free raffle drawing of items that fellow division members no longer needed or wanted. Jax McEntee made out like a bandit. Several members whose raffle numbers were called gave their tickets to this young man. I think he may have had to make two trips to his Mom's car!

Oh yeah, one more thing about our January meet. Rich Wurst brought new signage for the division. I'm only sorry that I didn't take a picture of one of them. But then, you'll see them again on March 15th at the Bridgeworks Enterprise Center, 905 Harrison Street, Allentown, PA 18103. (We postponed the February 15th meet due to inclement weather.) This will be a joint meet with the Philly Division.

Steve Wysowski of the Philly Division will present: *"What Can We Do to Increase Participation in the Hobby."* Steve will offer his suggestions and the opinions of others, discussing what some have already done and continue to do. The Susquehanna Division will also present a clinic, the subject of which will be announced at the meet. There will also be a Modeler's Showcase, so bring your completed or in process models. If time permits we will also have a Modeler's Forum.

On Saturday, March 8th Susquehanna Division members will "show the flag" at the Harrisburg Railroad Show and Collectors Market in Harrisburg, PA.

Remember that this year we elect Board of Directors. Though our current board members are graciously standing for reelection, if you are so inclined to run, please contact me. And we still need an editor for ***Susquehanna Sidetracks***.



Slow



Second Section

Susquehanna Sidetracks

Official Newsletter of the Susquehanna Division 11
Mid-Eastern Region, NMRA

Contributing to Sidetracks are always welcome. Division members wishing to contribute articles, photos or features may do so by emailing items to the Editor at the e-mail address listed below.

Submissions should be in WORD format with photos sent under separate cover. Photos which are part of the submission should be identified as to their location in the WORD document.

The deadline for submission for the next issue is April 15, 2025.

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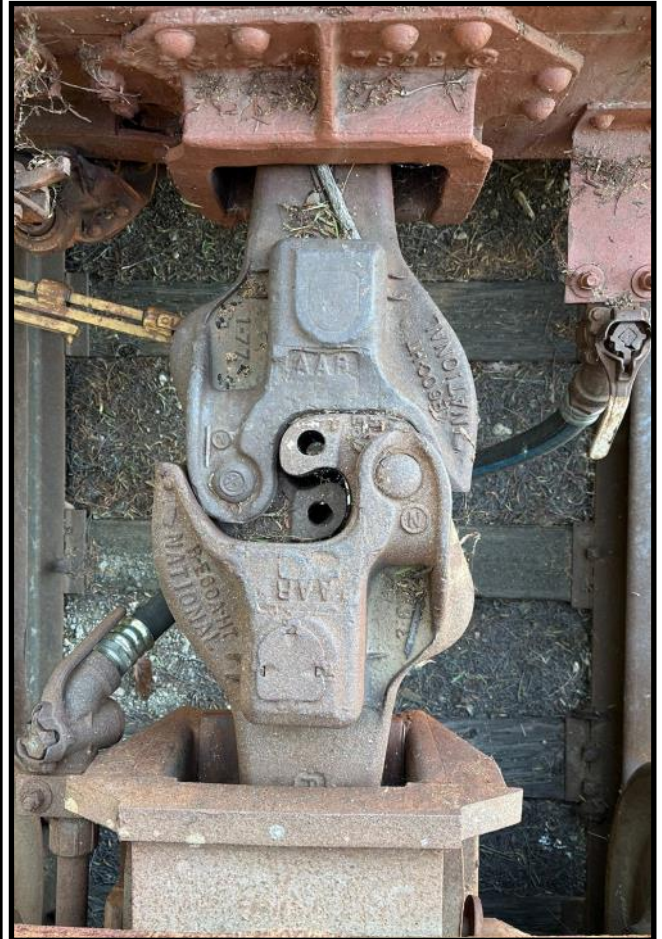
www.mer-nmra.com

National Model Railroad Association

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Susquehanna Division 2025 Calendar of Events

Susquehanna Division in 2025

As we move into 2025, the Susquehanna Division’s officers and board of directors have a number of events planned hoping to improve our membership’s involvement. At board of directors meetings, we continue to adapt our approach. You will note that the joint meeting with the Philadelphia Division originally planned for February has been moved to March due to winter weather warnings.

We have several in-person meetings planned with a variety of clinics and activities. The division’s in-person membership meetings offer the chance to come home with something tangible from the free raffle choices, some new knowledge from the clinics or the Modelers’ Forum, and of course the opportunity to engage in fellowship with other model railroaders as well as visit some of the division’s model railroads after the meeting. We will also host some live events at museums or other railroad sites around the division without having a full meeting agenda.

In addition to the in-person events, we are planning a couple of virtual meetings on ZOOM. For a variety of reasons, including the geographic spread of our Division, some members may find travel to in-person meetings difficult. We hope that providing an opportunity to engage in online meetings will allow additional participation in attendance as well as having a wider scope of guest presenters or clinicians to draw from.

In looking at the schedule below, you may notice a couple of new activities in 2025. We are planning on “flying the flag” or manning a table at an occasional non-NMRA event to boost our visibility and even gain some new blood in our membership. As we finalize these plans, please consider joining us for an hour or two at the table or even just attending an event outside of our normal purview such as a train show or RPM meet.

Month — Date	Location	Type of Meeting or Event
March 3/08/25	Harrisburg, PA. Scottish Rite Harrisburg	Division Information Table Harrisburg Railroad Show
March 3/15/25	Allentown, PA. Bridgeworks Enterprise Center	Rescheduled Membership Meeting- Confirmed
April 4/12/25	Invitation will be emailed	Virtual Membership Meeting on Zoom
May		
June 6/21/25	Zion Lutheran Church, Dauphin, PA	In-person Membership Meeting-
July	Mount Union, PA	Possible “Flying the Flag” Information Table - Tentative
August 8/16/2025	Strasburg, PA Railroad Museum of Pennsylvania	In-person Membership Meeting
September	Scranton, PA area	Field trip to Northeast subdivision of Susquehanna Division - Tentative
October 10/16—10/19	King of Prussia, PA	Attend or volunteer MER Regional Convention
November	<u>Model Railroad Open Houses</u>	On your own model railroad visits
December	Invitation will be emailed	Virtual Membership Meeting on Zoom

This October the Mid-Eastern Region’s convention will be hosted by the Philadelphia Division. This will be a great opportunity for our members to attend a regional convention without traveling a great distance. If you haven’t attended a regional convention, please consider taking advantage of this opportunity.

Division Board of Directors Election

It's once again time to ask for nominations for our four Division Director positions. Each will be elected for a two-year term from July 1, 2025 to June 30, 2027. To be a Director, you must be a member of the NMRA, reside in the Susquehanna Division 11 area, and be at least 21 years of age. You may nominate yourself or another member you feel is qualified; however, in fairness to that individual please verify they would be willing to serve. If we receive more than four nominees, each will be asked to provide a short (200 words or less) bio that will then be provided to all members.

Some of our current Directors have expressed interest in running for reelection. However, like any other election, all four positions are open for the election. So please be positive, get your name placed on the ballot, and make your case for election.

The timeline for the 2025 Director voting process is:

May 20, 2025: This is the submission deadline for nominations. Nominations should be sent to Alan Mende, Superintendent via email at super@susquehannanmra.org.

May 23, 2025: Candidate bios and photos are due to Alan Mende via email (see above address). Short bios (200 words or less) are required only if there are more than four candidates. Please note that this is so we can distribute the list of candidates. The suggestion is if you are nominating yourself submit your bio with your nomination

May 26, 2025: Ballots and nominee bios (only if we receive more than four candidates) will be sent to members via a mass email.

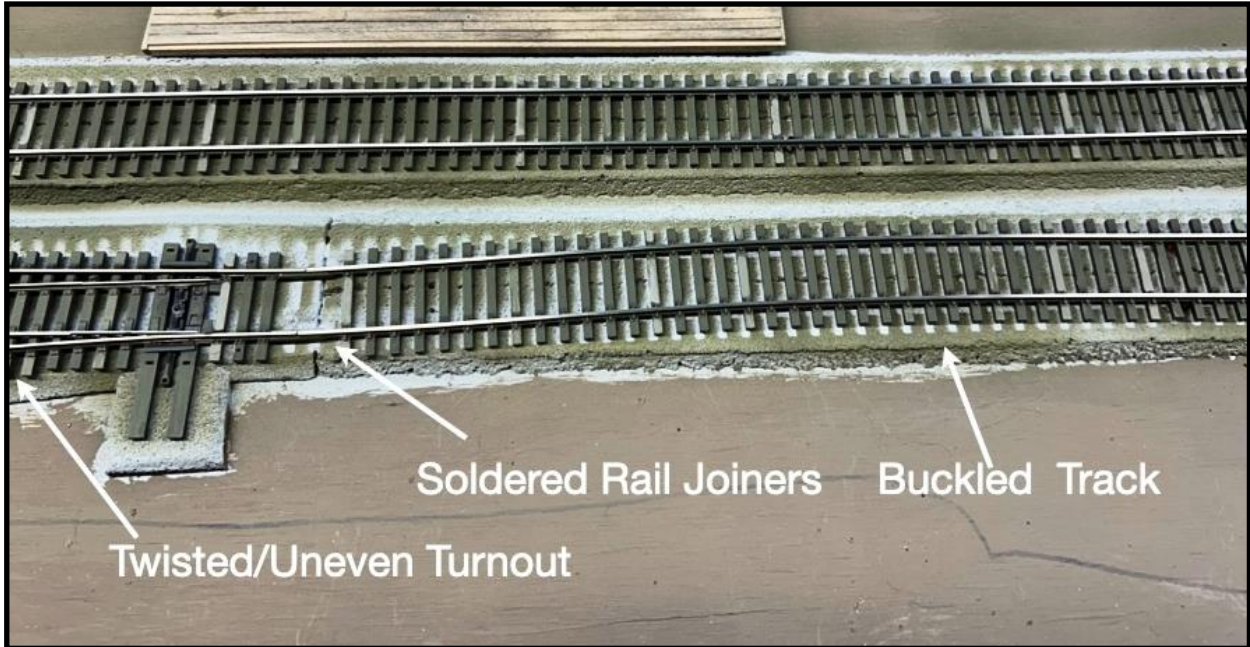
May 31, 2025: Deadline for submitting ballots via email to Dean Johnson, Chief Clerk, at: treasurer@susquehannanmra.org

July 2025: Election results published in the July/August issue of Sidetracks.

Please seriously consider running for a Division Director position. Our annual programs are developed under the leadership of your Board of Directors (BOD) and all Division policies are approved by your BOD. Therefore, this is your opportunity to get involved in deciding the future direction of your NMRA Division. I know most members are very busy with job, family, hobby projects, and other community programs and therefore believe serving on our BOD would simply require too much time. **On the contrary, our BOD only meets in person once per year – all other matters are handled by either email, ZOOM meeting or phone.** An added incentive is that being a BOD member, you can accumulate points toward the NMRA Achievement Program's Volunteer certificate. That's an unheralded bonus for those working towards the goal of Master Model Railroader!

So once again, please give this important request your most thoughtful consideration. This is an excellent opportunity for you to have a direct say in how your Division is managed, and it does not require a great deal of your valuable free time. Please send me an email if you have questions about the elections or our BOD operations at super@susquehannanmra.org.

Winter Track Gremlins



I thought that the trackwork and wiring were complete in my town of Nooksack on my HO scale railroad and that I could focus on structures and scenery there this winter. It turns out that I was mistaken, at least for the time being. With our furnace blasting, a serious issue with track buckling appeared. Not only had the track buckled, but a nearby turnout had twisted and would no longer lie flat. Derailments resulted. Most of my rail joiners are soldered to facilitate electrical connectivity. Many people frown on extensive rail joiner soldering because of the danger of rail expansion. I suspect that in my case the problem developed more from the benchwork shrinking due to low humidity. Whichever the cause, what might my solution be?

At first I considered what I thought to be the easiest solution: unsolder the rail joiners, cut off a bit of each rail, and resolder the joiners. I wouldn't have to make any changes to the wiring; the existing feeders would still be adequate. However, what might happen when the temperature and humidity change in the summer? Not knowing the answer to that question, I decided to take a different approach.

I got out my Dremel, and using the cutting disk, I began to cut a new gap in the buckled track. I almost immediately broke the disk and had to replace it. Two important notes: wear eye protection and have a supply of replacement disks on hand! After cutting the gaps and filing the ends of the rail flat, the flex track straightened and the turnout flattened down. The kerf from the cutting disk left an appropriate gap. I removed some of the ties, filed the rail ends, and slid rail joiners onto the rails. With everything back in place after gapping the rails, both the track and the turnout were realigned. By not soldering the new joiners, the rails can move with the changes in humidity/temperature through the seasons. But wait, now I have a possible electrical gap, as loose rail joiners are notoriously untrustworthy.

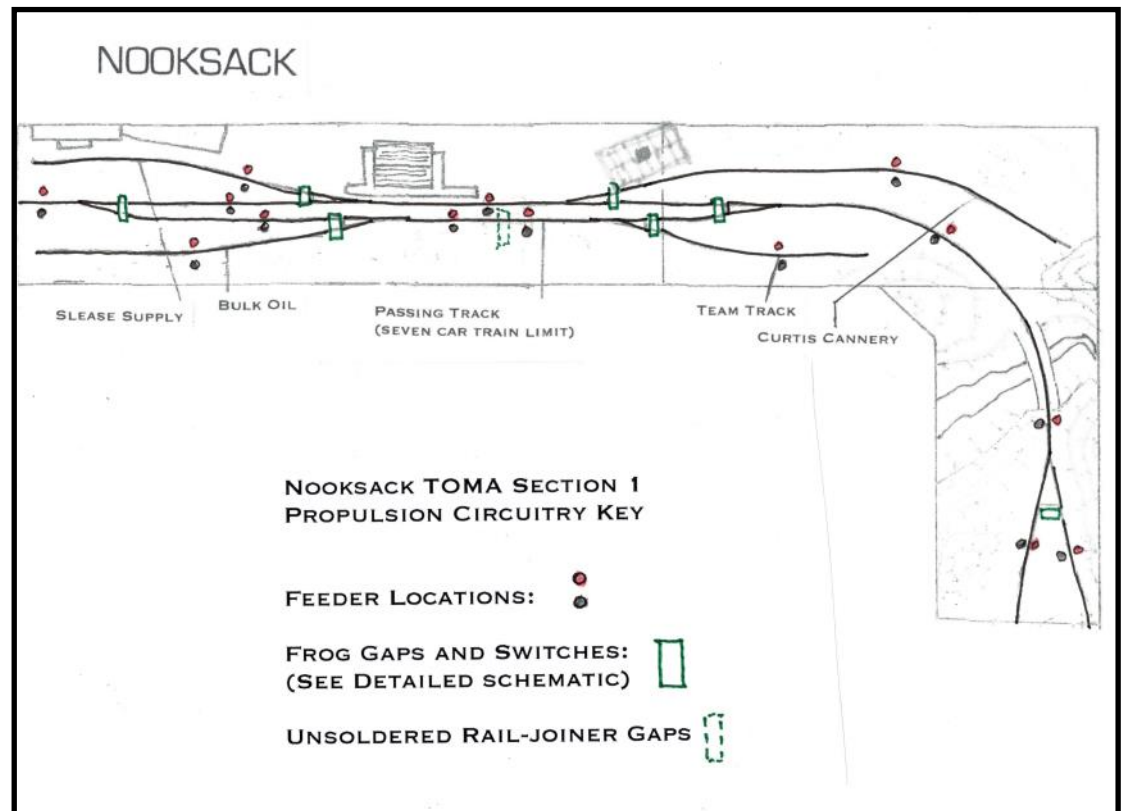


Winter Track Gremlins (continued)

Needing to add a new set of feeders to ensure connectivity, I gathered my electrical tools and materials. One organizational trick I have learned is to keep the wiring materials and tools in a separate toolbox. Knowing that this approach entailed dropping feeders, I had plugged in my soldering iron as an early step. Having a hot iron and all materials at hand as well as tinning the rail and feeders before soldering the feeders in place made for quick work. I tested continuity between the feeder ends under the benchwork and the rails with my multimeter before joining the feeders to the DCC bus wires with suitcase connectors. I then cleaned up and put the track tub and wiring toolbox away, thinking I only had to replace several ties to repair the gremlins' work.



Actually I did have one more task. I remembered that I needed to add the new gap and feeders to my "Propulsion Circuitry Diagram" in the three ring binder that I have started towards the Electrical Achievement Program should I chose to attempt it in the future. The Electrical AP is fairly low hanging fruit, particularly if one gathers documentation while building a model railroad. It is good practice to document what is going on under the model railroad in any event, NMRA AP or not.



NMRA Event



Mark your calendars - Saturday, APRIL 5, 2025, 9 AM-2:30 PM (lunch available on site)
The South Mountain Division is presenting the
Clinic's Day / Mini-Con.

Blue Ridge Mountain Fire Hall, 13063 Monterey Lane, Blue Ridge Summit, PA

- Prototype and model presentations
- Formal and informal clinics
- Modular displays
- Interaction with fellow hobbyists
- 10% discount at **Mainline Hobby Supply** (across the street from the Fire Hall)
- At least four private layouts open for visitation

There is no admission charge.

The venue is wheelchair accessible.

This educational event is open to the public for promotion of the hobby of model railroading.



Scotia Iron Works (continued)



Centre Furnace Stack – Then



Centre Furnace Stack – Now

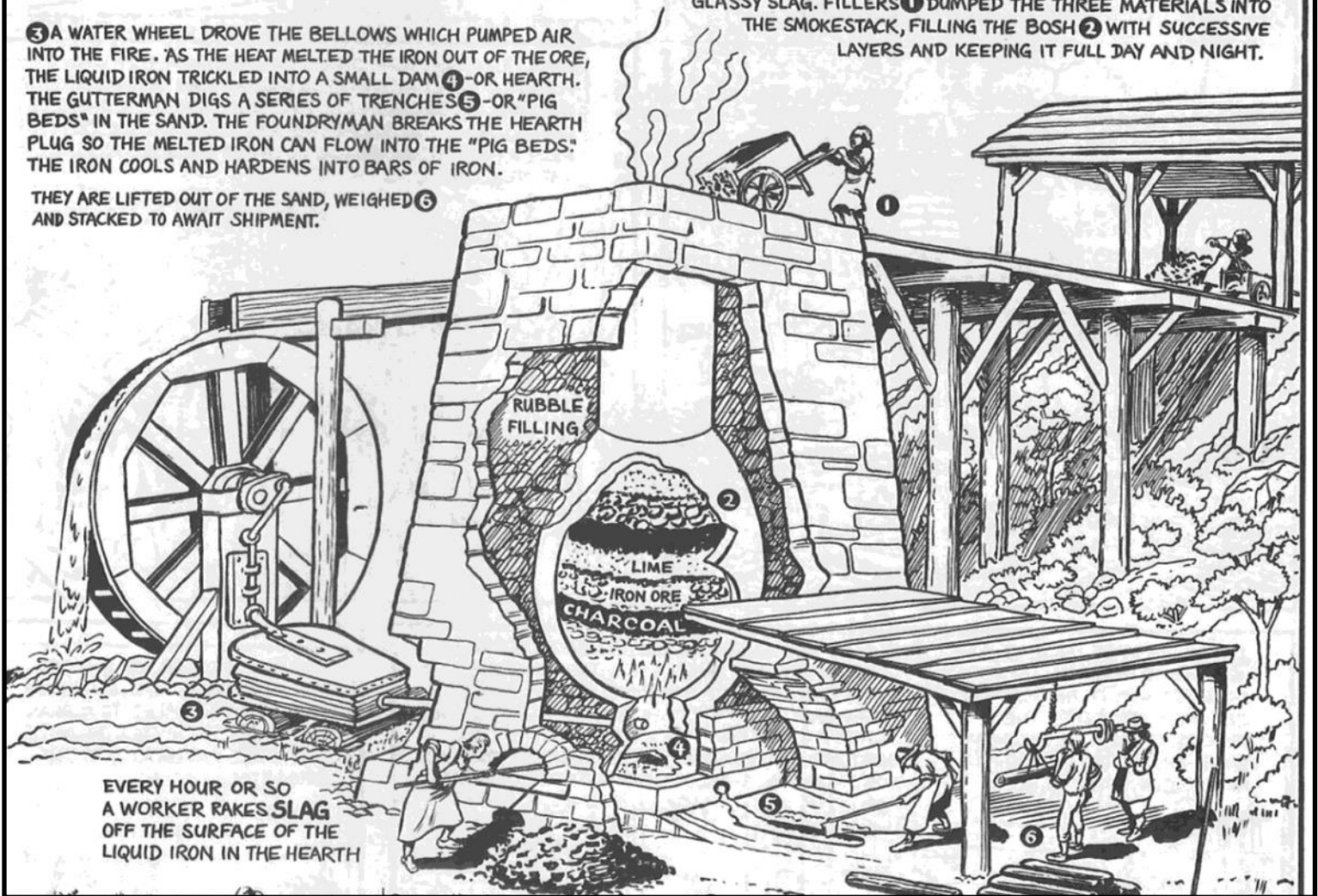
Scotia Iron Works (continued)

MAKING IRON

③ A WATER WHEEL DROVE THE BELLOWS WHICH PUMPED AIR INTO THE FIRE. AS THE HEAT MELTED THE IRON OUT OF THE ORE, THE LIQUID IRON TRICKLED INTO A SMALL DAM ④—OR HEARTH. THE GUTTERMAN DIGS A SERIES OF TRENCHES ⑤—OR "PIG BEDS" IN THE SAND. THE FOUNDRYMAN BREAKS THE HEARTH PLUG SO THE MELTED IRON CAN FLOW INTO THE "PIG BEDS." THE IRON COOLS AND HARDENS INTO BARS OF IRON.

THEY ARE LIFTED OUT OF THE SAND, WEIGHED ⑥ AND STACKED TO AWAIT SHIPMENT.

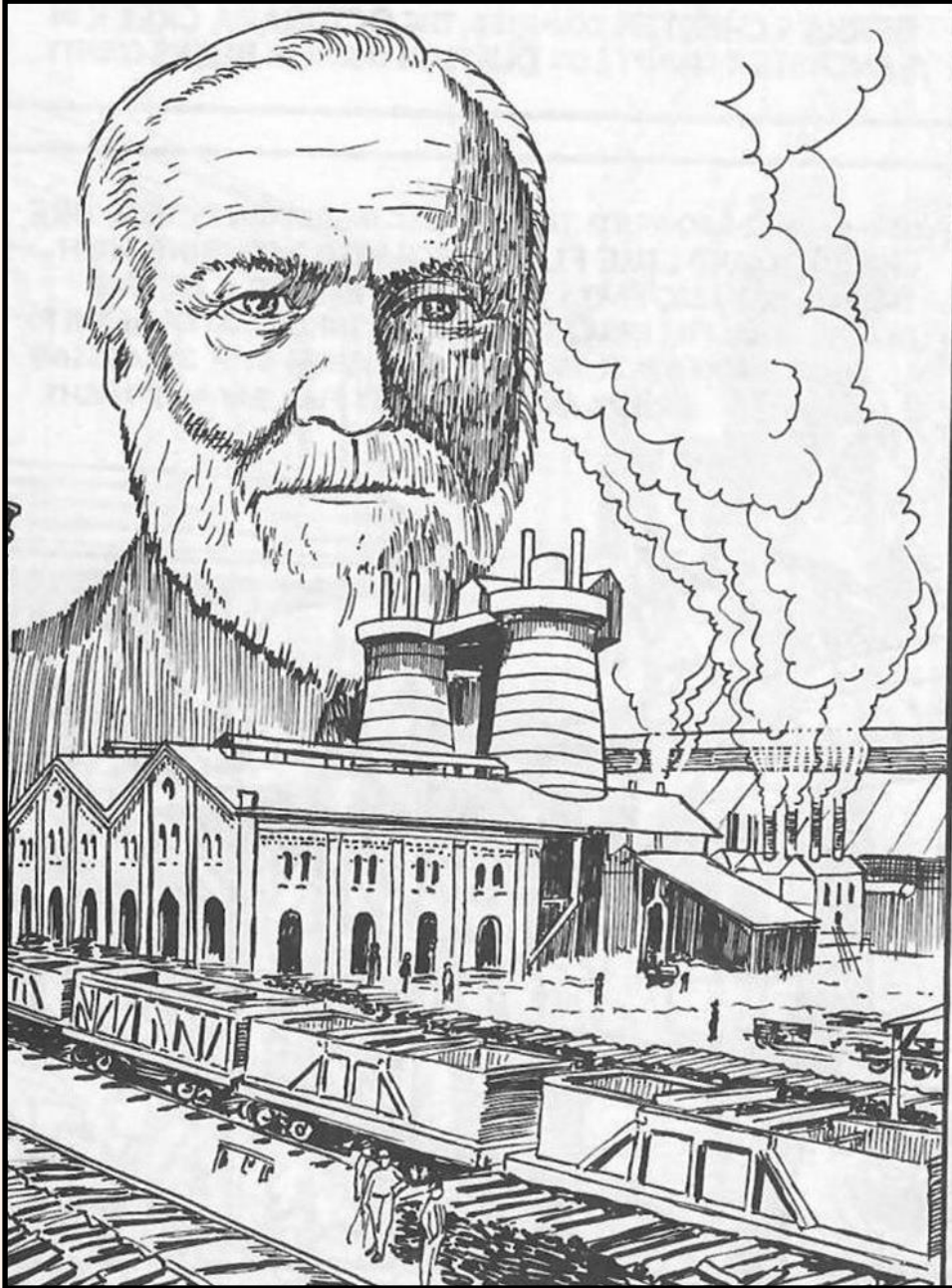
IRON-MAKING REQUIRED THREE BASIC INGREDIENTS: IRON ORE, CHARCOAL, AND LIME FLUX WHICH WOULD COMBINE WITH THE NON-METALLIC PARTS OF THE ORE TO MAKE A BRITTLE GLASSY SLAG. FILLERS ① DUMPED THE THREE MATERIALS INTO THE SMOKESTACK, FILLING THE BOSH ② WITH SUCCESSIVE LAYERS AND KEEPING IT FULL DAY AND NIGHT.



EVERY HOUR OR SO A WORKER RAKES SLAG OFF THE SURFACE OF THE LIQUID IRON IN THE HEARTH

- Centre Furnace operated from 1791 through 1858.
- Steel was becoming the latest and greatest commodity.
- Iron and carbon were mixed together at 2,600 degrees Fahrenheit to form steel.
- By 1880 there were 1,005 steel plants in the U.S.
- Soon the bigger companies began to buy up the smaller ones.
- Andrew Carnegie led the conglomeration movement by forming the **Carnegie Steel Company** in 1882, making Pittsburgh the steel capital of the world.
- Carnegie's company and J. P. Morgan's **Federal Steel Company** merged in 1901 becoming the **U.S. Steel Corporation**.

Scotia Iron Works (continued)



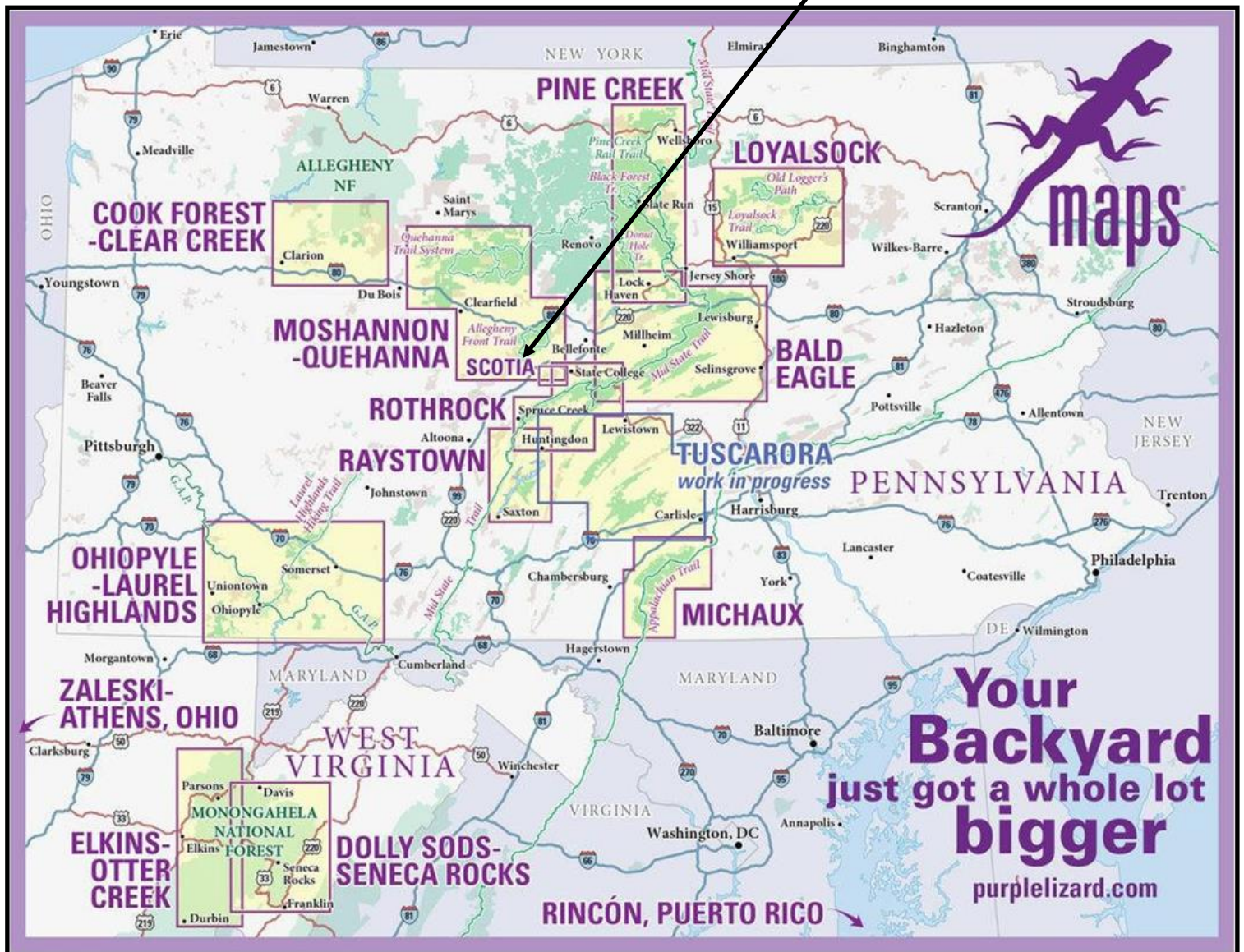
Carnegie's empire included everything needed to make and market steel:

- Coal
- Iron ore mines
- Steel mills
- Fabrication shops
- Railroads
- Warehouses

Scotia Iron Works (continued)

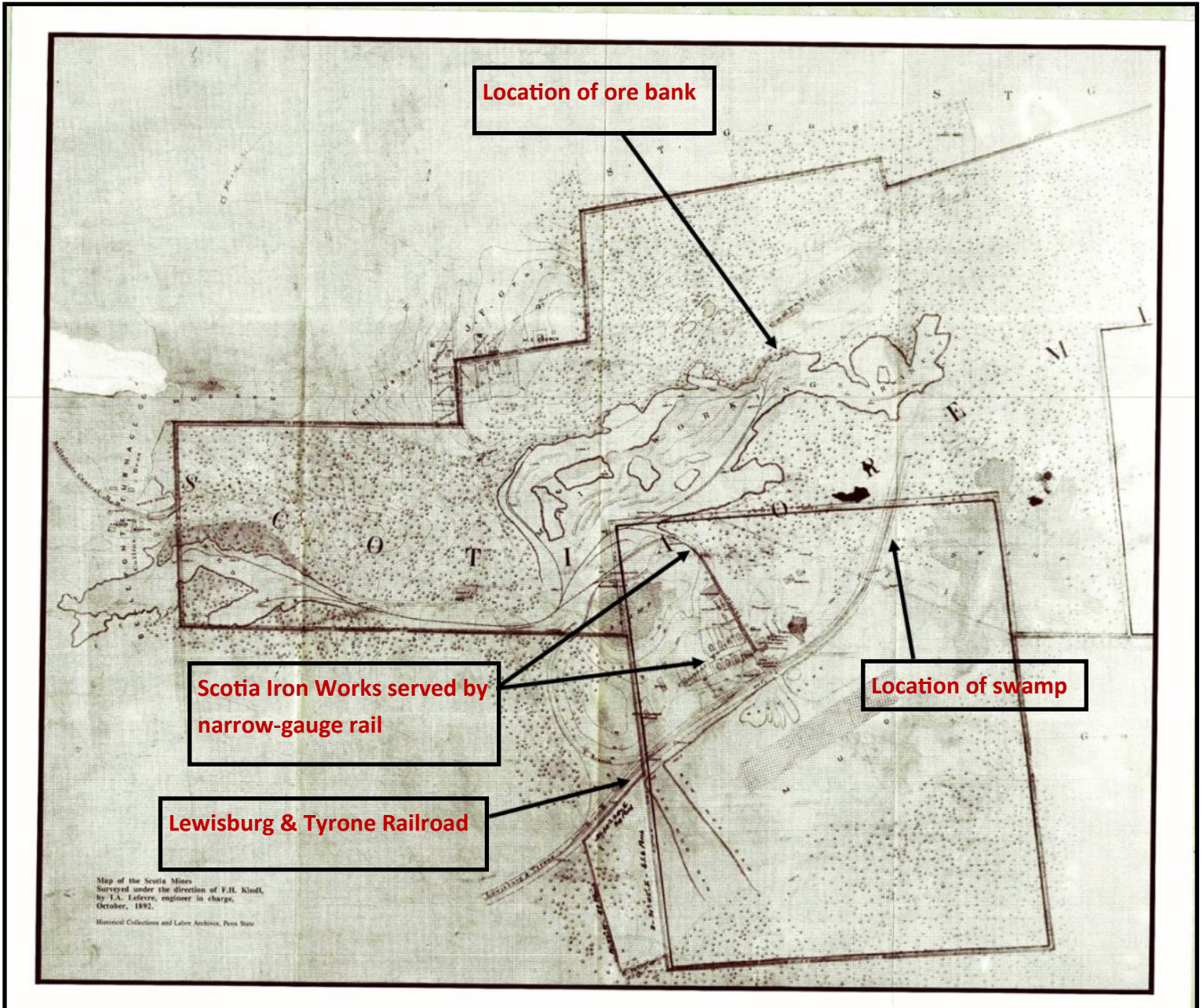
- In 1881-1882 Carnegie purchased and leased the Barrens for its iron ore.
- His goal was to establish a model iron ore community in the Barrens.
- Carnegie, a Scotsman, named the community **Scotia**, meaning “Little Scotland”.

Scotia is located in the middle of Pennsylvania – in the Barrens – 5 miles from State College and Penn State University.



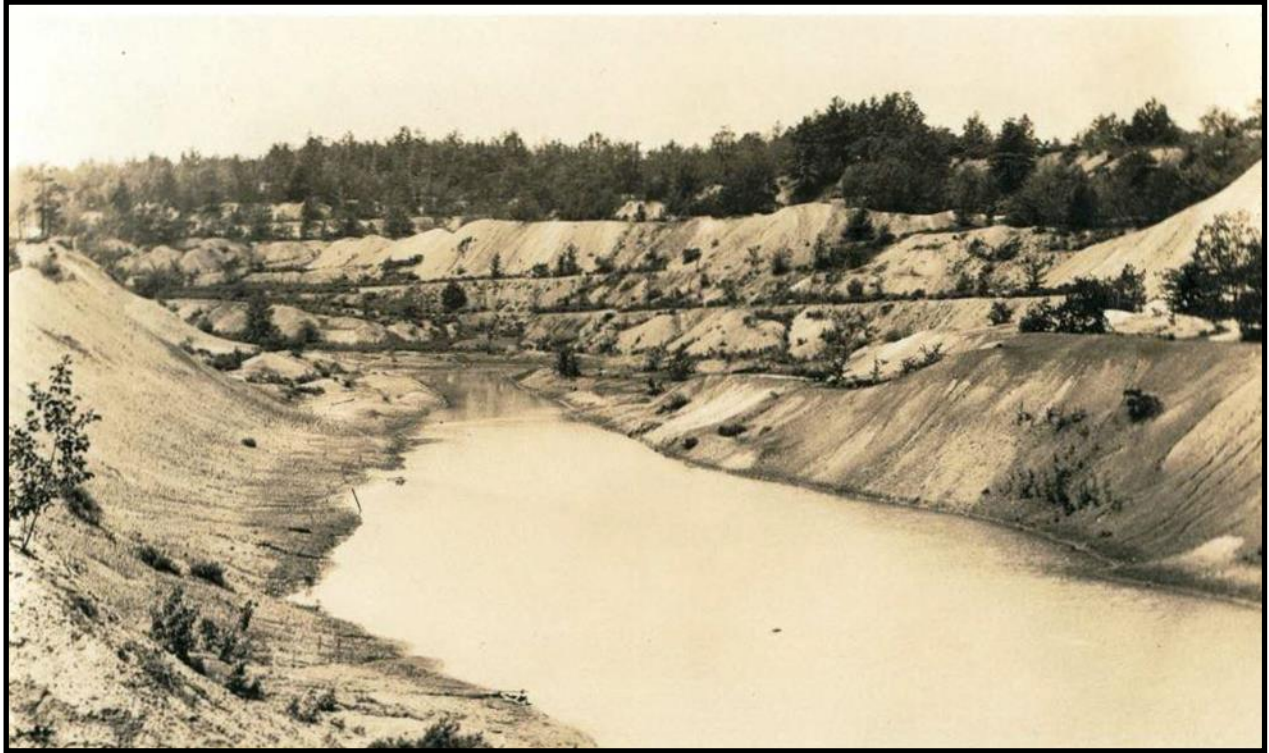
Scotia Iron Works (continued)

Survey Map of Scotia Mines (1882)



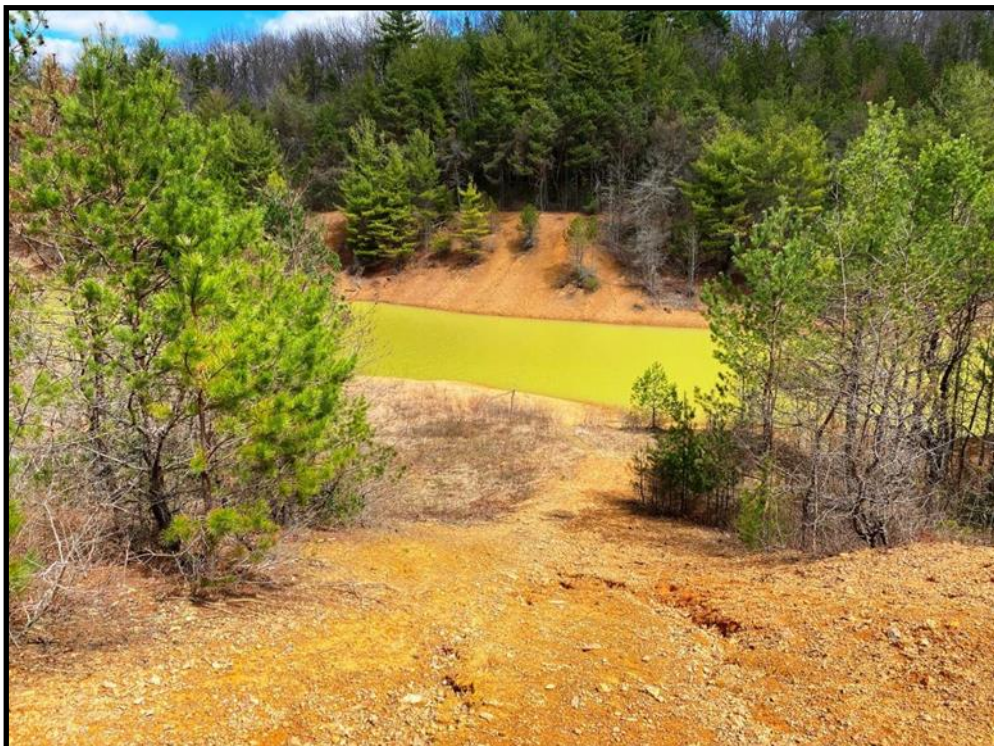
Scotia Iron Works (continued)

Mining ceased at this ore bank once it got excavated down to the water table.



1882

Historical Collection and Labor Archives, Penn State University



2022

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Scotia Iron Works (continued)



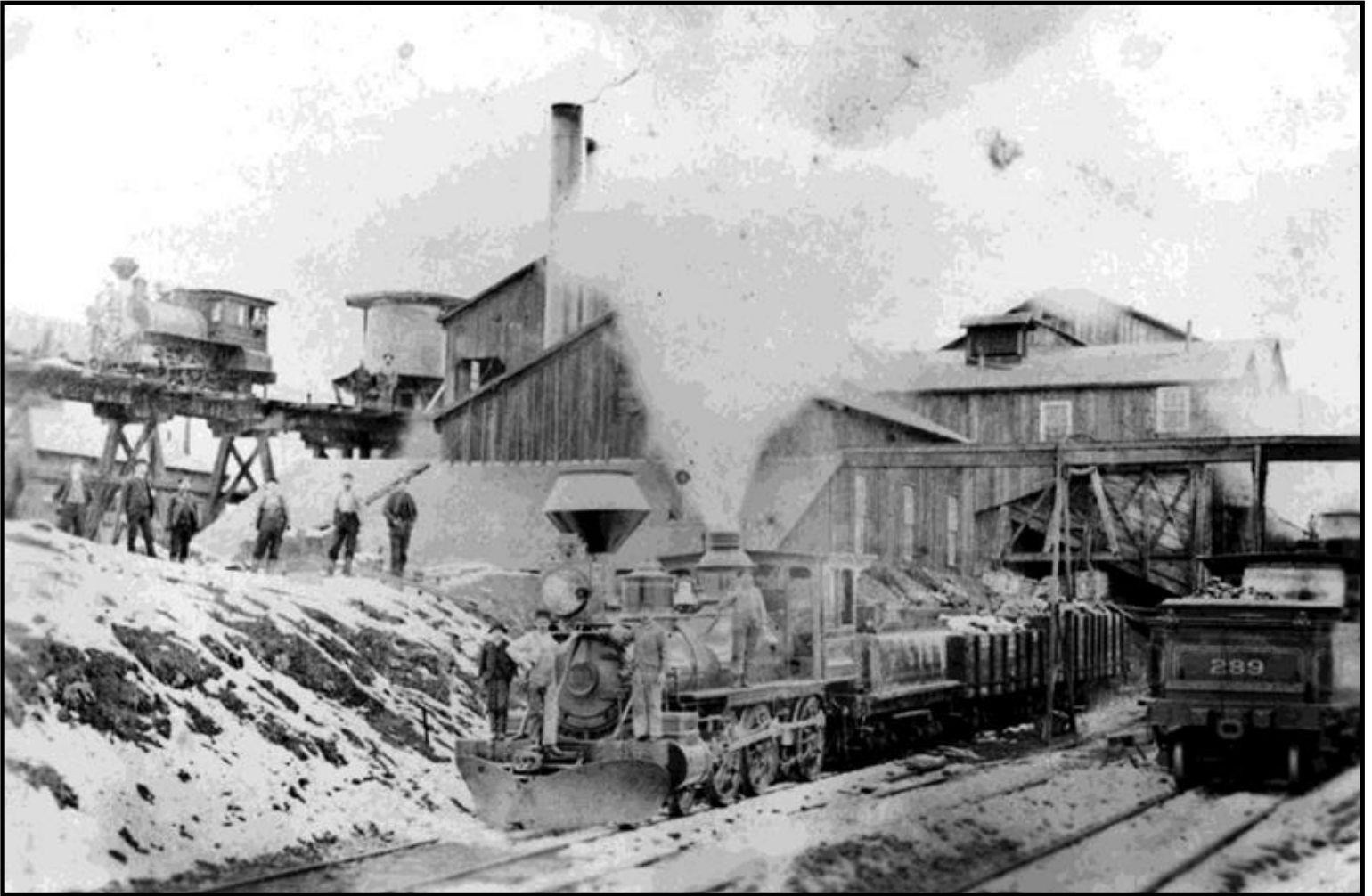
Swamp at Scotia where water from the ore washer was dumped. This photo was taken in 2022 by the author as he stood on the rail bed of the Lewisburg & Tyrone Railroad. Loaded L&T cars at Scotia were transferred to the PRR at Tyrone for shipment to the Carnegie steel mills in Pittsburgh.



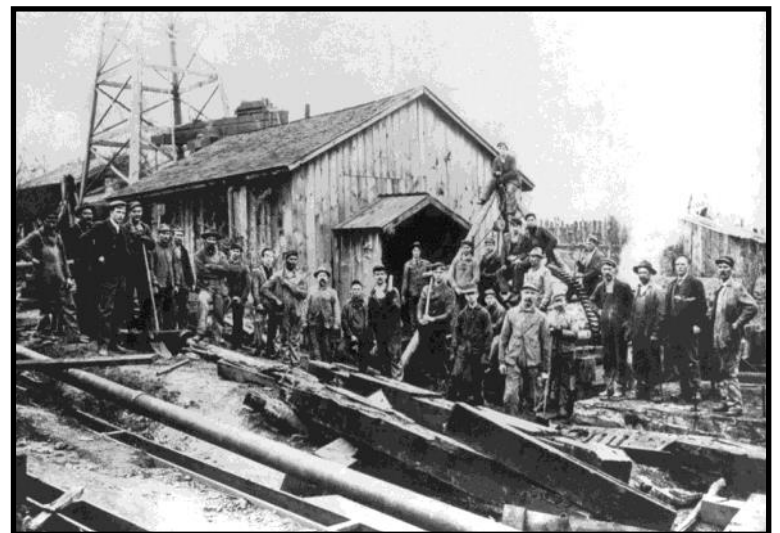
Narrow-gauge 0-4-0 Dinky locomotive hauling ore cars from the ore banks to the ore washer.

Historical Collections and Labor Archives,
Penn State University

Scotia Iron Works (continued)



Lewisburg & Tyrone Railroad train departs Scotia for Tyrone.



Vintage photos of workers and their families at the Scotia Iron Works.

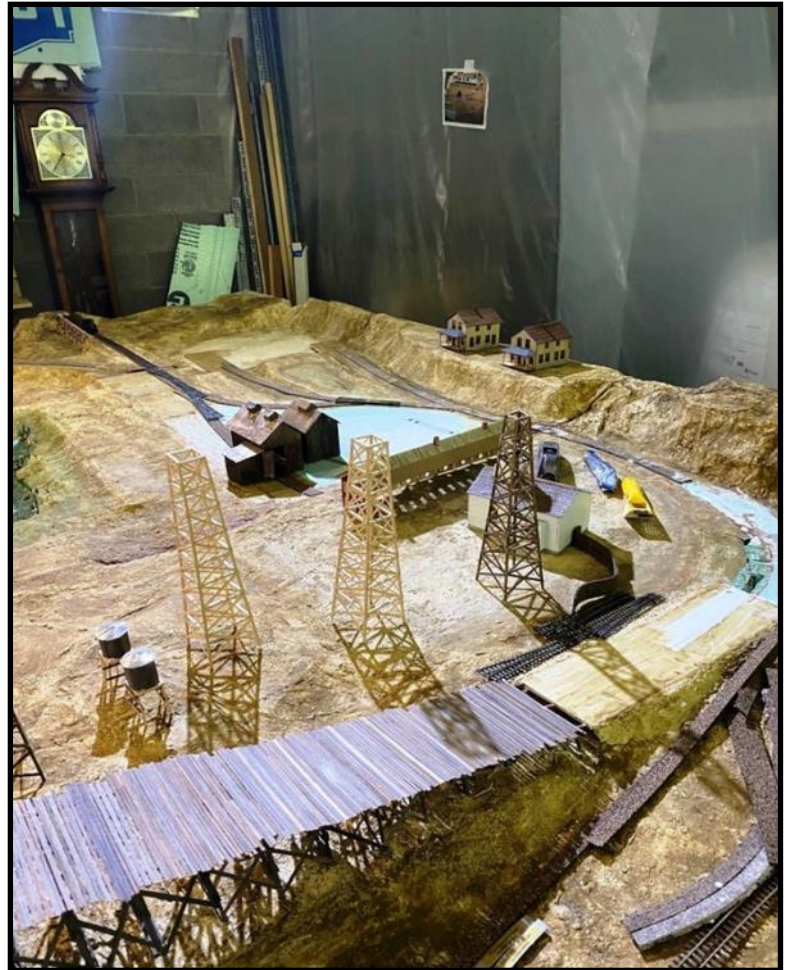
Scotia Iron Works (continued)



A walk through the Barrens, which is now Pennsylvania State Game Land #176, will reveal remains from the Scotia Iron Works.

Scotia Iron Works (continued)

Five local (State College) model railroaders are building a 12' x 8' HO-scale model of the Scotia Iron Works for the Centre County Historical Society.



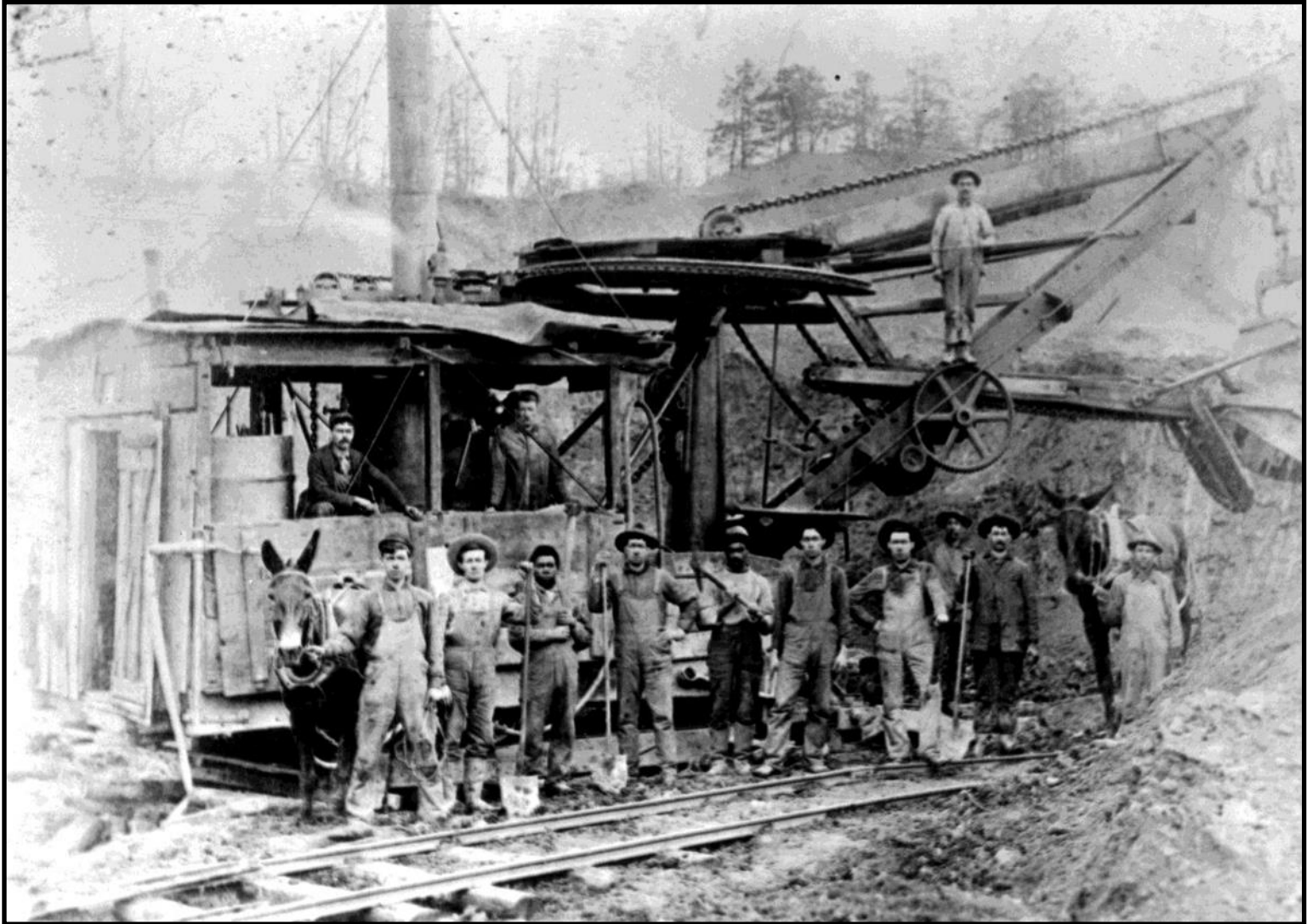
The ore washer was scratch-built. The towers are for water tanks to feed the ore washer.



Structure kits are from Don Reed, Micro-Scale Models, Pennsburg, PA. Don built the Superintendent's house.

Scotia Iron Works (continued)

I have been commissioned to build two HO-scale steam excavators like the ones used in the Scotia Iron Works.



Centre County Historical Society Collections

This feature, **Modeling the Central Pennsylvania Scotia Iron Works in the 19th Century**, will be continued in June/July issue of **Sidetracks**.