**Pennsylvania Historical and Museum Commission, Bureau for Historic Preservation**

### Identification and Location

<table>
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<tr>
<th>Survey Code</th>
<th>Tax Parcel/Other No.</th>
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<td>County:</td>
<td>Lackawanna 0 6 9</td>
<td>Luzerne 0 7 9</td>
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<td>Municipality</td>
<td>Wayne 1 2 7</td>
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<td>Address:</td>
<td>Various 2.</td>
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<tr>
<td>Historic Name:</td>
<td>Pennsylvania Coal Company Gravity Railroad</td>
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<td>Other Name:</td>
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**Owner Name/Address:** Various

**Owner Category:** X Private Building X Public-local District

**Resource Category:** Public-state Site Public-federal Structure Object

**Number/Approximate Number of Resources Covered by This Form:** 1

**USGS Quads:**

1. Avoca, PA  zone 18
2. Lake Ariel, PA (UTM reference B, C)  zone 18
3. Lakeville, PA  zone 18
4. Hawley, PA (UTM reference D)  zone 18
5. Honesdale, PA  zone 18
6. Olyphant, PA  zone 18
7. Pittston, PA (UTM reference A)  zone 18
8. Scranton, PA  zone 18
9. Moscow, PA  zone 18
10.  zone 18

**UTM References:**

A. zone 18 431320 E 4572880 N
B. zone 18 462020 E 4591080 N
C. zone 18 463670 E 4584700 N
D. zone 18 484440 E 4591600 N

### Historic and Current Functions

**Historic Function Category:**

A. Transportation
B. 

**Subcategory:**

Rail Related

**Code:** 1 6 A

**Particular Type:**

A. Gravity Railroad
B. 

**Current Function Category:**

A. Vacant/Not in use
B. 

**Subcategory:**

**Code:** 0 9 8

### Physical Description

**Architectural Classification:**

A. 
B. 
C. 
D. 

**Exterior Materials: Foundation**

N/A

**Walls**

N/A

**Other**

**Railroad**

Roof N/A

**Walls**

**Other**

**Structural System:**

1. Railbed, gravity planes, abutments, culverts, walls
2. 

**Width:** 24.38 meters (80 feet)

**Length:** 145.29 kilometers (90.28 miles)

**Stories/Height:** N/A
HISTORICAL INFORMATION

Year Built: C. 1850 to C. 
Additions/Alterations Dates: C. ___ ; C. ___ 
Basis for Dating: X Documentary X Physical

Explain: Based upon primary and secondary sources, conversations with local experts, historic mapping, and an examination of the resource.

Cultural/Ethnic Affiliation: 1. N/A 2. 
Associated Individuals: 1. N/A 2. 
Associated Events: 1. N/A 2. 
Architects/Engineers: 1. James Archibald 2. Gideon Frothingham
2. James Seymour 4. William Maffat
Builders: 1. N/A 2. 

MAJOR BIBLIOGRAPHICAL REFERENCES

See Continuation Sheet.

PREVIOUS SURVEY, DETERMINATIONS

None

EVALUATION (Survey Director/Consultants Only)

Individual NR Potential: X Yes No
Contributes to Potential District: X Yes No
Context(s): Pennsylvania Coal Company Gravity Railroad

Explain: The railroad forms a contiguous linear historic district eligible under Criterion A for its transportation and economic significance, Criterion C for its engineering significance, and Criterion D for its information potential.

THREATS

Explain: Portions of the Pennsylvania Coal Company’s Gravity Railroad lie within the project area of the Lackawanna Valley Industrial Highway Project and may be affected by the proposed development.

SURVEYOR INFORMATION

Surveyor Name/Title: Philip Ruth and Mary R. Eheling
Project Name: Pennsylvania Coal Company Gravity Railroad
Organization: CHRS, Inc.
Street and No.: 403 East Walnut Street
City State: North Wales, Pennsylvania
Date: 18 July 1997
Telephone: (215) 699-8006
Zip Code: 19454

Additional Survey Documentation: Site plan, photographs, and property location map appended.
Associated Survey Codes:
PHYSICAL DESCRIPTION:

This historic resource passes through portions of Wayne, Lackawanna, and Luzerne counties in northeastern Pennsylvania, traveling a winding route between the towns of Port Griffith in Luzerne County and Hawley in Wayne County. Evidence of the Pennsylvania Coal Company (PCC) Gravity Railroad remains in all three counties, with more than two-thirds of its former right-of-way still discernible. The Gravity featured two separate sets of tracks: a 75.18 kilometer (46.72 mile) “loaded” track for the transportation of coal-laden cars eastward to Hawley, and a 70.10 kilometer (43.56 mile) “light” track for empty cars returning to mines in the Lackawanna and Wyoming valleys. Extant features of this transportation system include stretches of former right-of-way (along both “levels” and “planes”), “cuts” where stone and earth were blasted away to make room for the right-of-way, remnants of engine house and employee residence foundations, vestigial elements of brick-lined reservoirs, dry masonry bridge abutments and culverts, and the Gravity’s once-famous tunnel. A number of PCC-related buildings still survive in Dunmore Borough, in the vicinity of what was once the PCC’s headquarters and maintenance complex along Mill Street.

The former routes of the Gravity Railroad’s light and loaded tracks are still discernible as they extend from Port Griffith, through Dunmore, over Moosic Mountain, and on to Hawley. The former right-of-way typically appears as a cleared track through wooded land, maintaining a gentle grade of 15.24 centimeters drop per every 18.28 meters (6 inches in 60 feet) on the loaded track right-of-way, and 15.24 centimeters drop per every 16.46 meters (6 inches in 54 feet) on the light track. Some portions of the right-of-way contain gravel and/or culm remaining from the historic roadbed. Historically, the right-of-way generally measured a minimum of 24.38 meters (80 feet) in width, with a widening at the head and foot of each plane to allow room for the construction of engine houses, employee residences, reservoirs, and other associated structures. There were 12 planes on the loaded track and 10 on the light track. Originally, the tracks rested on ties anchored by iron pins into a bed of stone, earth, and sometimes bits of coal mixed with culm. Much of the roadbed was removed after the Gravity closed in 1885, and the rails were sold for scrap at the same time.

Most of the surviving features associated with the Gravity are located outside urban areas. Foundations of engine houses and reservoirs remain at the heads and feet of the incline planes. These features are evidence of the extraordinary engineering utilized in the construction of the PCC Gravity. Workers running the engine houses resided in company houses constructed at the head or the foot of the corresponding plane. Foundations for these dwellings occasionally survive, and in these instances it is possible to delineate the domestic structures situated at the planes. One domestic complex, located at the head of Plane 9, includes the foundations of worker housing, a privy, and a garden plot. These small settlements were often located in remote districts, and the workers with their families formed isolated communities. Culverts, bridge abutments, and the well known Gravity tunnel also survive along the railroad’s route, and add to the historic feel and association of the line.
PHYSICAL DESCRIPTION (Contd.):

While the majority of the path of the resource remains intact, some sections of former right-of-way have been compromised by modern development. Those areas that have experienced the greatest disturbance lie in the Pittston/Port Griffith region, in the vicinity of the Gravity's southwestern terminus. Extensive municipal development following the closure of the railroad in 1885 has obliterated Planes 1 through 3 and their connecting levels, all but a portion of Plane 4 and its level, Planes 6 through 8 and their levels (all on the loaded track), and Plane 22 and its level on the light track. Construction of Interstate 81 and, more recently, the Lackawanna Valley Industrial Highway has destroyed Planes 7, 8, and the foot of 9.

From the middle of Plane 9 up and over Moosic Mountain the former right-of-way of the loaded track is again discernible. A modern residential development briefly interrupts the right-of-way on Level 11, but beyond this point the right-of-way continues eastward virtually uninterrupted all the way to Hawley. Along the way (from the head of Plane 12 eastward), the former right-of-way has been appropriated for approximately 4.82 kilometers (3 miles) by a local road, aptly named Old Gravity Road. This road has maintained the grade and alignment of the old railroad, and still maintains its historic feel and association.

The former right-of-way of the light track survives in an even greater state of preservation than the loaded track. This survival is explained by the PCC’s use of the light track’s route in the construction of its Erie and Wyoming Valley Railroad. Track for the Erie and Wyoming was laid next to the light track when the steam-powered railroad was built to replace the Gravity in the early 1880s. The new railroad thus served to preserve, to a large degree, the integrity of the adjacent Gravity right-of-way. Since the abandoning of the Erie and Wyoming Valley Railroad in the twentieth century, the neighboring rights-of-way have been left to deteriorate, but they can still be recognized for much of the distance between the head of Plane 22 and Hawley.

Between Pittston and Dunmore, the light and loaded tracks ran close to each other along the side of Moosic Mountain, occasionally passing over or under one another. Between Dunmore and Hawley the tracks diverged, sometimes running as much as 4.82 kilometers (3 miles) apart. Two crossovers were built between the light and loaded tracks on the east side of the mountain to allow passenger cars or empty coal cars to be returned to Dunmore or the mines without having to travel all the way to Hawley. Cars supplying coal to engine houses along the loaded track were gathered at the head of Plane 11, then sent down a crossover to Level 21 on the light track in order to expedite their return to the mines. Similarly, most passenger cars out of Dunmore traveled only as far as the head of Plane 12, then were switched to a crossover leading directly to the resort village of Lake Ariel on the light track.

The Pennsylvania Coal Company’s central office and repair shops were also located in Dunmore. The former PCC office and maintenance complex in Dunmore stretches along Mill Street for approximately 762 meters (2500 feet). Because this complex sat beside Plane 6 of the loaded track, Gravity cars could easily be shunted off the loaded track and into the "shops" for repairs. The rectangular-plan main office building (now accommodating a retirement and rehabilitation facility) is constructed of brick, and stands three stories tall. The building measures fifteen bays long by five bays deep and has a flat roof. Decorative lintels and sills surround the windows. A series of former shop buildings extend northwestward and southeastward along Mill Street. According to a local avocational historian of the Gravity, these shops were built by the PCC during the Gravity era. The buildings have since been remodeled to make them more suitable to their current function of auto supply warehouse but are still readily identifiable as industrial machine/repair shops of the late nineteenth century. (Pers. Comm. Sal Mecca 07/10/97). These buildings, which stand one and two stories in height, are of frame and stone construction. Asphalt shingles protect the side-gabled roofs. The roofs have wide, overhanging eaves, and metal ventilators sit on top of one of the buildings. Two over two windows light the repair shops, and a half circular window pierces the gable end of one of the single story buildings.
Among its many natural resources, Pennsylvania has been endowed with vast deposits of compressed and hardened organic material known as “anthracite coal.” The four largest deposits—or “fields”—of anthracite were laid down over 250 million years ago in the valleys and foothills of the Appalachian Mountains, in the eastern part of the State. Between them, these coal-beds once contained more than eighty percent of the world’s hard coal.

When European settlers began unearthing anthracite in eastern Pennsylvania around the time of the American Revolution, and as their first crude experiments two hundred years ago hinted at its tremendous potential as a hot-burning and long-lasting fuel, entrepreneurs swung into action. Here were seemingly inexhaustible stores of what they called “stone coal,” and not far away, strung along the eastern seaboard, were the bustling port towns of New York, Philadelphia, and Baltimore, each with its own insatiable appetite for fuel.

The entrepreneurs’ earliest efforts to market anthracite on a large scale were focused on Pennsylvania’s middle and lower coal fields in the Lehigh and Schuylkill Valleys, because these deposits were within easiest reach of the young nation’s former capital city of Philadelphia. The first small shipments of coal were hauled to Philadelphia over rough roads and rocky rivers. To allow for larger payloads, businessmen joined forces in the early 1800s to build canals. These artificial rivers were tied into natural waterways to create a transportation system capable of floating a million tons of “black diamonds” each year from Lehigh and Schuylkill Valley coal fields into Philadelphia.

But that was only half the battle. Coal merchants also had to convince a wary public that anthracite was better than other fuels then in use—including wood, charcoal, and bituminous or “soft” coal. Word had gotten around that anthracite was very difficult to ignite, and it was almost impossible to keep burning in conventional fireplaces and stoves. The widespread use of “stone coal” would only be possible with the development of grates and stoves designed specifically for burning anthracite.

Meanwhile, little attention was paid to the more remote Northern Coal Field, part of which lay within the sparsely-settled Lackawanna Valley. Because these deposits were farther away from Philadelphia, and because the intervening miles were filled with mountains, swamps, and other natural obstacles, hauling Lackawanna coal to Philadelphia was difficult and quite expensive. Beyond that, coal merchants from the Lehigh and Schuylkill Valleys were already flooding that market with anthracite.

New York City, on the other hand, was a relatively untapped market, and it lay no farther from the Lackawanna Valley than Philadelphia. Between the busy mouth of the Hudson River and the Lackawanna Valley, however, lay a formidable expanse of mountainous terrain. Credit for figuring out how to make a profit from the Lackawanna Valley’s remote coal resources goes to a couple of enterprising brothers from Philadelphia: Maurice and William Wurts. The Wurtses had moved from their boyhood home in New Jersey to Philadelphia in the early 1800s, and there they were
HISTORICAL NARRATIVE (Contd.):

running a clothing store in 1813 when they acquired some land in the wilderness of northeastern Pennsylvania. While scouting out their newly-acquired territory, the brothers learned of the area’s vast potential as a source of coal. They set about quietly buying up more property in the vicinity, and once they had gained the rights to many acres of prime coal land, they hired the country’s foremost engineer—the celebrated Benjamin Wright—and asked him to devise a way for getting their coal from the Lackawanna Valley over to the Hudson River, where it could be shipped to points north and, more importantly, down to New York City. Wright had recently gained fame as the chief engineer of the Erie Canal in northern New York State, far and away the country’s longest artificial waterway.

Under Benjamin Wright’s supervision, a coal transportation route was laid out in 1823, working backward from the Wurts brothers’ primary destination of New York City. From the Hudson River village of Rondout, plans called for the building of a canal up along Rondout Creek, as far as the west side of the Shawangunk Mountains, then down the valley of the Neversink River to the Delaware River, which there marked New York State’s western border with Pennsylvania. In Pennsylvania, the canal would be extended up the Delaware to the Lackawaxen River, and then up the Lackawaxen River to the mouth of Dyberry Creek.

There, with roughly 27.36 kilometers (17 miles) to go to reach a little mining settlement called “Carbondale,” recently founded by the Wurts brothers, the proposed canal stopped and could go no further. Between the mouth of Dyberry Creek and Carbondale stood an imposing obstacle—Moosic Mountain—looming more than 304.8 meters (1,000 feet) over the surrounding countryside. There was a small notch in its crest known as Rix’s Gap, but even this sat a seemingly inaccessible 289.56 meters (950 feet) above the canal route.

In the summer of 1825, as gangs of Irish and German immigrants began blasting and digging out the first sections of the Canal, engineers for the Wurts brothers and the corporation they helped to form—called “The Delaware & Hudson Canal Company”—were still puzzling over how to get what they hoped would be large quantities of Lackawanna coal across Moosic Mountain. The Company’s chief engineer as of 1827, John B. Jervis, finally settled on a technique that had been partly developed a few years earlier in a British mine. It called for using steam-powered locomotives to pull coal wagons on rails up gradual inclines, then stationary steam engines to pull them up short and steep inclines, then letting gravity take the wagons down longer declines. Thus was conceived America’s first “gravity railroad,” though it wouldn’t be known as such until years later. Construction on Jervis’s revolutionary railroad between Carbondale and Honesdale began in December 1827.

Jervis’s plan to use steam-powered locomotives on the relatively flat stretches of his railroad had to be scrapped when the locomotives he ordered from two English manufacturers proved too heavy for his track-bed and trestles. The line was retrofitted so that horses could substitute for locomotives, and the final sections of rail were laid on the gravity railroad during the summer of 1829. With the aid of horse-power, stationary steam engines, and even one engine driven by a water-wheel, the first loaded coal cars began crossing Moosic Mountain in early October. With 275 railroad cars and 130 canal boats at work, the D&H system moved 6550.29 tonnes (7,000 tons) of Lackawanna coal from the mines around Carbondale to the mouth of the Hudson River during its first shortened year of operations. Within a decade, that amount grew to more than 108862.2 tonnes (120,000 tons) annually. By 1846 the D&H Canal Company’s total exceeded 453592 tonnes (500,000 tons).
HISTORICAL NARRATIVE (Contd.):

Though gratified by their company's successes, Delaware and Hudson directors were far from satisfied. There was much more money to be made if they could open more mines, extend the railroad to meet them, and increase the overall carrying capacity of the line. That prospect frightened and angered the growing number of small, independent mine operators in the region, as well as other businessmen and local leaders looking out for their communities' interest. The D&H Company seemed intent on gaining a stronghold on the region's economy by monopolizing the business of transporting coal. Charges and rebuttals began flying back and forth in court proceedings and in the press.

Company directors had been authorizing small improvements to the railroad and mine connections since 1836. Public relations skirmishes and legal challenges continued for years, but by 1842 the Company had most of their battles won. With the close of the canal season that year, officials commissioned a major overhaul of their system. Workers began enlarging the canal to allow for boats with bigger payloads, and James Archbald—the Company's astute Scottish-born superintendent—made plans for the extension of the gravity railroad southwestward from Carbondale, down along the Lackawanna River, into the Lackawanna Valley, where more and more anthracite coal mines were being opened.

Under Archbald's supervision, the railroad was first extended 11.26 kilometers (7 miles) down to recently-opened mines where White Oak Run flowed into the Lackawanna River. A second extension, completed in 1859, took the railroad another 9.66 kilometers (6 miles) down to "Valley Junction," where it connected with a standard, locomotive-powered railroad the Company was building down to the outskirts of Scranton.

In the meantime, however, a second gravity railroad was introduced to the region. The extending of the D&H gravity had been prompted by the Company's need to feed its growing canal, which was projected to have an annual capacity of 917084 tonnes (one million tons) by 1850. It would be necessary for the canal to operate at near-peak capacity if the D&H Company was to pay for its series of costly enlargements. Company directors came to recognize, however, that the Gravity was not even close to being able to deliver a million tons of coal to the Canal in a year's time. Even after extensions and improvements to the railroad—along with the expansion of coal mining operations in the Lackawanna Valley—the Gravity's annual capacity was still only about 453592 tonnes (500,000 tons). Somehow the D&H Company had to feed twice as much coal into its canal, and if the Lackawanna Valley and the Gravity couldn't deliver it, the Company would have to bring it in from someplace else.

"Someplace else" turned out to be right next-door in the unexploited Wyoming Valley. Because the coal fields around the confluence of the Lackawanna and Susquehanna Rivers were not within easy reach of either the D&H Gravity or the North Branch of the Pennsylvania Canal (opened in the early 1830s and a boon for Wilkes-Barre coal producers farther down the Wyoming Valley), they were largely ignored throughout the 1830s. Almost no coal was mined in the territory between present-day Pittston and Scranton during that period, even though extensive deposits were known to exist there.

All that changed, however, as water and rail transportation routes penetrated further into the Wyoming Valley. In a single Act of August 24, 1838, the Pennsylvania Legislature granted charters to two companies formed with an eye toward exploiting more of the region's coal riches. The Washington Coal Company (WCC) was authorized to acquire and hold 809.38 hectares (2,000 acres) in the Lackawanna Valley, and to build a railroad for transporting anthracite either to the North Branch Canal or the D&H Canal Company's railroad or canal. All of the founding directors of this company hailed from Honesdale. The other corporation, titled "The Pennsylvania Coal Company," was given authority to buy or lease 404.69 hectares (1,000 acres) within the Township of Pittston and to build a railroad from this property to either another railroad or the North Branch Canal. The prime movers behind this enterprise were Pittston-area businessmen and landowners. They named Charles T. Pierson as their first president.
HISTORICAL NARRATIVE (Contd.):

Both of the new coal corporations got off to slow starts. The Washington Coal Company apparently did little more than sit on its charter for seven or eight years. The Pennsylvania Coal Company, meanwhile, managed to open a mine in the vicinity of Pittston by 1842, but then sent only a few shipments of coal down the North Branch Canal. Despite their relative inactivity, the two companies attracted the attention of Pennsylvania and New York capitalists. The corporations' acquisition of coal mining and railroad charters made them appear increasingly useful to businessmen looking to more fully exploit the wealth of the Northern Coal Field.

Among these entrepreneurs, not too surprisingly, were the brothers William and Charles S. Wurts. William was ready to take another crack at unlocking the region's coal riches, and he was happy to adopt an approach similar to the one he and Maurice had employed thirty years earlier. In 1844, the Wurtses sent an elderly relative out into the field to quietly buy up farms containing coal lands in the vicinity of present-day Providence. This secretive work carried over into 1845, the year the D&H Company began extending its gravity railroad down to Company-owned lands south of Carbondale, where James Archbald had recently uncovered deposits of coal. As Archbald continued to explore for coal elsewhere in Blakely and Providence townships during the following years, local observers assumed fearfully that he was interested in acquiring more coal lands for the ravenous D&H Company. They soon learned, however, that Archbald was now also associated with the long-dormant Washington Coal Company, and his interests included locating for that corporation a route for a second gravity railroad in the region. This line would extend from the lower end of the Lackawanna Valley to a meeting with the D&H Canal somewhere south of Honesdale.

The independent activities of Archbald, the Wurts brothers, the Washington Coal Company, the Pennsylvania Coal Company, and the D&H Company began to converge in 1846. It was then that D&H president John Wurts (Maurice and William's youngest brother) became convinced of his company's need to find other sources of coal for its growing canal. Steps had to be taken quickly, he reported to his managers, before some other party established "an inconvenient and dangerous rival into the market over whom we will have no control and from whom we can expect nothing but keen competition." A five-member committee appointed by Wurts to study this issue reported back to him that the D&H's best option was to unobtrusively acquire controlling interest in a company already chartered by the Pennsylvania Legislature to own coal lands in the Lackawanna-Wyoming region. Considering the hostile reception the D&H Company had recently received with its Gravity extension down to White Oak Run, it seemed advisable to keep such an effort as quiet as possible.

The "unobtrusive acquisition" of additional D&H coal lands proceeded in 1847 with some of the largest Company stockholders buying out the quiescent Washington Coal Company along with its right to own 809.38 hectares (2,000 acres) in the lower Lackawanna Valley, and to build a railroad connection to the D&H Canal. The new owners of the revitalized firm named James Archbald as their president. About this time, these and other businessmen associated with the D&H Company—including President Wurts—bought stock in the Pennsylvania Coal Company and arranged to have that firm purchase from William and Charles Wurts the Dunmore-area properties they had quietly acquired in 1844-45.

Another piece of the puzzle fell into place in June 1847 when John Wurts and several managers of the D&H Company formed a corporation called "The Wyoming Coal Association." Through this corporate shell they hoped to acquire coal lands in the Pittston area, start up a mining operation, and then transport the coal to the D&H Canal. Their intimate relations with the D&H Company led them to assume they could arrange to have their coal floated to market over the D&H Canal "at a reasonable rate of toll." Within weeks, the founders of the Wyoming Coal Association (WCA) hammered out an agreement with officials of the D&H Company paving the way for the WCA to ship its coal
HISTORICAL NARRATIVE (Contd.):

over the D&H Canal, so long as it took responsibility for transporting it from the Wyoming Valley to the waterway. In exchange for this convenience, the WCA agreed to pay canal tolls based on each "long ton" of coal shipped. An important stipulation was that if the canal should be enlarged—which looked like a good possibility—the WCA would be required to pay additional tolls equal to "one-half of such portion of the reduction in the cost of transportation per ton ... as should be estimated to have been produced by the said enlargement and by no other cause." This clause would figure dramatically in an upcoming corporate civil war.

Around the time this agreement was struck, James Archbald began overseeing construction of a gravity railroad on behalf of his Washington Coal Company. The road was originally projected to extend roughly 43.45 kilometers (27 miles) from Dunmore, over Moosic Mountain, and across to Paupack Eddy (since renamed "Hawley"), where Middle Creek joined the D&H Canal along the Lackawaxen River, about 16.09 kilometers (10 miles) southeast of Honesdale. With his assistant engineers Gideon Frothingham, James Seymour, and (later) William Maffit, Archbald designed the line using the same principles and techniques he had developed while expanding and refining the D&H Company's gravity railroad.

As construction proceeded on the WCC gravity railroad, economic and legal jostling continued to complicate what was already a tangled web of individual and corporate business relations. In 1848, William R. Griffith, the new president of the Pennsylvania Coal Company, offered to sell to the WCC the PCC's coal lands below Pittston, about 32.18 kilometers (20 miles) southwest of Dunmore. That same year, the Pennsylvania Legislature passed an act incorporating "The Luzerne and Wayne Railroad Company," with authorization to build a railroad between the Lackawaxen and Lackawanna Rivers (which the WCC was already in the process of doing). On June 22, 1849, this charter was transferred to the PCC. More importantly, on this red-letter day the PCC also acquired the charter, rights, holdings, and obligations of the Washington Coal Company. John Wurts and some of his fellow PCC board members apparently did not approve of this merger, as they promptly resigned their positions. For James Archbald, the PCC's acquisition of WCC real estate meant he would now be extending the new gravity railroad another 32.18 kilometers (20 miles) from Dunmore down to Port Griffith on the Susquehanna River, in the vicinity of the PCC's coal-mining operations around Pittston.

After all of this maneuvering, three loosely confederated corporations remained standing: the Pennsylvania Coal Company, the D&H Canal Company, and the Wyoming Coal Association. In some cases, stockholders or employees of these companies held a similar interest or position in one or both of the other companies. It was thus only a matter of time before the corporations officially knitted themselves even more tightly together. That time arrived on April 16, 1850, when managers of the PCC and the WCA signed Articles of Agreement making it possible for the PCC to assume ownership of the WCA a year later, if two-thirds of the WCA stockholders voted in favor of the merger at that time.

Meanwhile, in the spring of 1850, James Archbald oversaw the completion of the region's second gravity railroad, begun as a Washington Coal Company venture, but now owned by the Pennsylvania Coal Company. The PCC Gravity was constructed with 12 planes and connecting levels on its 75.19-kilometer (46.72-mile) loaded track, and 10 planes and levels on its 70.10-kilometer (43.56-mile) light track. Except for occasional crossovers, the lines traveled independent routes sometimes as much as 4.83 to 6.44 kilometers (3 or 4 miles) apart. Planes 1 through 11 with their connecting levels on the loaded track covered the 32.18 kilometers (20 miles) between Port Griffith and the ridge of
HISTORICAL NARRATIVE (Contd.):

Moosic Mountain east of Dunmore. After ascending Plane 11, trips of five loaded coal cars coasted down through a 230.12-meter (755-foot) tunnel bored under the crest of the mountain. This was the beginning of their 45.06-kilometer (28-mile) gravity-propelled ride to the D&H Canal at Hawley over two long levels (Numbers 11 and 12), each about 22.53 kilometers (14 miles) long. Eight planes and levels were then required to cover roughly 32.18 kilometers (20 miles) of track taking trips of seven or eight empty cars from the canal basin to Plane 21 near the summit of Moosic Mountain. After being pulled up this plane, the trips coasted down through spectacular Cobb’s Gap and into the Lackawanna Valley on a level nearly 33.79 kilometers (21 miles) long. Plane 22 near Avoca—at 804 meters (one-half mile), the gravity railroad’s longest plane—eased the empty trips down one last incline before their 8.05-kilometer (5-mile) descent to Port Griffith.

Most of the 22 planes were equipped with hoisting mechanisms driven by 50-horsepower stationary steam engines. Water wheels powered Planes 13 through 16 on the light track out of Hawley, but after a decade, these wheels were replaced with steam engines. When it began sending its first shipments of coal over the gravity railroad on June 8, 1850, the PCC placed into service 900 coal cars, each with a capacity of 4.53 tonnes (5 tons). To this fleet it added as many as eight cars each day, as they were turned out by the company’s car shops. During its first season of operation, the PCC shipped 286685.8 tonnes (316,017 tons) of Wyoming Valley coal over to the D&H Canal, nearly three-quarters the amount of Lackawanna anthracite transported by the D&H Gravity to Honesdale.

As the new gravity railroad began to prove its mettle, PCC managers and their counterparts in the D&H Canal Company and Wyoming Coal Association continued to merge their business interests. On May 30, 1851, the Articles of Agreement signed a year earlier by the PCC and WCA were finalized following a WCA shareholder vote. The PCC thus swallowed up all of the real estate, holdings, and obligations of the WCA, including any standing agreements between the WCA and other parties. Two months later, PCC and D&H Company officials signed a statement directing that a fair rate schedule be drawn up for use of the D&H Canal after enlargements and improvements were completed within a couple of years. The improvements would be expensive, but they were expected to allow coal to be moved much more economically.

John Wurts seemed to have gotten what he wanted for his D&H Canal Company. In the PCC, he and his D&H associates now had a willing partner in the Wyoming-Lackawanna region, complete with a charter to mine coal and ship it to the hungry D&H Canal over its newly-built gravity railroad. Between the contributions of the PCC and D&H gravities, nearly 680388.5 tonnes (750,000 tons) of coal traveled to market over the canal in 1850. There was no reason to expect that amount to increase to the projected million tons as soon as the final phase of canal enlargement was completed in 1853. What President Wurts did not anticipate was the PCC becoming uncooperative. After all, most of its managers and shareholders were similarly engaged with the D&H Company, and responsibility for agreements struck with the Wyoming Coal Association had since been assumed by the PCC. But the relationship between the D&H Company and the PCC began to erode with the ascendance in the PCC of two former D&H employees: Irad Hawley and John Ewen.

Little is known of Ewen beyond the fact that he was a resident of New York City, a tenacious businessman, vice-president of the D&H Canal Company for most of 1849, and a trustee of the Wyoming Coal Association in 1851. Not much more is known of Irad Hawley (1793-1865). He had moved from his boyhood home in Ridgefield, Connecticut to New York City in 1807, and while still a teenager became a partner in a West India trading company known as Holmes, Hawley & Co. Between 1812 and 1838, Hawley made a fortune as a trader. His wealth eventually allowed him to retire from trading and put his money into coal-mining and railroad ventures. When he became a D&H manager in 1842, it was probably a result of his having made a sizable stock purchase in the company.
HISTORICAL NARRATIVE (Contd.):

With John Wurts, Hawley had helped establish the Wyoming Coal Association in June 1847. He then sat with Wurts on the D&H committee which worked out the coal-shipping agreement with the WCA two months later. Hawley had also been a member of the committee assembled by Wurts to determine how to finance the proposed improvements to the canal in early 1848. When the proposal submitted by this committee was adopted by the D&H Company that March, and enlargement of the canal commenced, it was based upon the WCA's agreement to help underwrite the work through the payment of additional tolls equal to "one-half of such portion of the reduction in the cost of transportation per ton...as should be estimated to have been produced by the said enlargement and by no other cause." It was understood by D&H officials that this obligation had since been transferred to the friendly Pennsylvania Coal Company. They would soon learn otherwise.

In 1850, while still a D&H manager (a position he would retain through 1851), Irad Hawley was named the PCC's third president. He served a single year, during which time the village of Paupack Eddy, where the PCC Gravity descended to meet the D&H Canal, was renamed "Hawleysburgh," then simply "Hawley," in his honor. John Ewen, after serving as the PCC's treasurer, succeeded Hawley as president in 1851, and served in this capacity for the next quarter-century (both men would be outlasted by John B. Smith, who took over as General Superintendent of the PCC in 1850 and held on for a term of 45 years).

It was during Irad Hawley's presidency that the PCC began to distance itself from the D&H Canal Company (though not geographically; the upstart company soon obtained a charter in New York State and relocated its headquarters into the neighborhood of the D&H's main offices in New York City). The PCC's move toward corporate independence shifted into high gear when John Ewen succeeded Hawley as president in 1851. Under Ewen, who seemed to take pleasure in sparring with his former associates at the D&H Company, the PCC all but declared war on the company that had caused its birth.

By 1853, the last in a series of costly improvements and enlargements of the D&H Canal had been completed. The PCC was in the process of shipping 453,592 tonnes (500,000 tons) of coal over the waterway, an amount equal to half of the canal's new capacity and slightly more than the D&H Gravity would move eastward from Honesdale during the same period. In July of 1853, John Ewen's successor as vice-president of the D&H Canal Company, William Musgrave, sent a letter to Ewen advising him that the D&H Company was now prepared to begin collecting from the PCC additional tolls based on savings resulting from the canal improvements, as had been agreed upon by officials of the Wyoming Coal Association (since absorbed by the PCC). According to D&H accountants, the improvements resulted in a cost reduction of $0.40 per ton of coal shipped. Inasmuch as the agreement stipulated that the D&H's partner was obligated to pay half the amount of savings, Ewen's company would now be charged an additional $0.20 per ton for the coal it shipped over the D&H Canal.

Ewen would have none of it. He fired back a response declaring that his company's transportation costs had not been reduced by the enlargement of the canal and, in any case, the enlargement had been performed without the advice and consent of the PCC. There would be no payment of additional tolls, Ewen declared flatly. Musgrave responded with a more-detailed breakdown of D&H costs and projected savings, but Ewen refuted the figures point by point. Years passed as the men exchanged increasingly hostile letters. Meanwhile, D&H clerks kept track of the PCC's mounting unpaid tolls. By the spring of 1857, they exceeded $600,000.
HISTORICAL NARRATIVE (Contd.):

Blindsided by exactly what President Wurts had tried to avoid—"an inconvenient and dangerous rival"—the D&H Canal Company was forced to take its case to court. A summons was issued to the PCC through the District Court of Ulster County, New York on April 23, 1857. That summer a State-appointed referee set the rules for litigation, which was expected to last about three months. Each side was to have a month to present its witnesses, then two weeks to present rebuttal witnesses. What followed was one of America's longest, most complicated, and memorable legal battles of the nineteenth century. From the swearing in of former D&H Canal Superintendent James McEntee on December 15, 1857 to the closing statements of the PCC's final rebuttal witness on May 17, 1861, the parties in the litigation paraded in front of the judge a collection of witnesses ranging from the most distinguished engineers and businessmen of the day to the humblest boatmen and farmers. Recorded testimony and exhibits filled nearly five thousand pages in eight volumes with every statistic and opinion related even peripherally to the business of shipping coal. No detail was too minute to require corroboration from at least two witnesses, leading to the calling of more than two hundred testifiers. The strain and frustration resulting from obviously-rehearsed testimony and repeated objections from both sides made the proceedings seem even more tedious.

When the hearing finally ground to a halt on the eve of the Civil War, it was only after five months of D&H witness presentations, two years of PCC witnesses, and nearly a year of rebuttal witnesses. The judge retired with the recorded testimony and exhibits to prepare his decision. Perhaps in the spirit of the protracted litigation, or perhaps because of complications stemming from the outbreak of war, the judge did not issue a verdict until 1863. When it finally came down, it called for a compromise settlement favoring the PCC. The judge determined that improvements to the canal had, in fact, resulted in transportation savings, but only of $.13 per ton (as opposed to the D&H's computed $.40). The PCC was thus obligated to pay additional tolls amounting to $450,000, rather than $1.2 million. It was a hard-fought, semi-victory for the rebel PCC, a stinging blow to the D&H, and an expensive, exhausting exercise in jurisprudence for both companies. They managed to put the dispute behind them in surprisingly short order, however. With the robust appetite for anthracite in New York and New England growing even stronger during four years of civil war and the subsequent period of reconstruction, there was enough demand for coal to keep both companies busy and expanding.

Even before a verdict was handed down in the case of PCC vs. D&H, the Pennsylvania Coal Company had begun taking steps to gain complete independence from its rival. It was clear that the company could not chart its own course so long as it had to ship coal over the D&H Company's canal. The answer appeared to lie with the Erie Railroad, which had a steam locomotive line extending from the vicinity of New York City to western New York State. In Pennsylvania, the line followed the Delaware River (and, not coincidentally, the D&H Canal) from Port Jervis to the town of Lackawaxen, at the mouth of the Lackawaxen River, then continued northward through the valley of the Delaware. If the PCC could get its coal to Lackawaxen, it could be shipped to market quickly and economically via the Erie Railroad.

In 1860, the PCC received a charter to operate a locomotive railroad connecting the eastern terminus of its gravity railroad at Hawley with the Erie Railroad at Lackawaxen. Construction of this 25.75-kilometer (16-mile) line, under the direction of the Erie Railroad Company, proceeded throughout 1862 and most of 1863. In December 1863, shortly after winter temperatures brought the canal season to a close, the PCC sent its first shipments of coal over this new "road of rails." From that month forward, the PCC gradually weaned itself off the D&H Canal, turning over the transport of its coal between Lackawaxen and New York to "the Erie."
HISTORICAL NARRATIVE (Contd.):

With the region’s roads often rutted, dusty, muddy, or snow-covered, folks living in the vicinity of the two gravity railroads were understandably eager to have the lines opened to passenger travel. The D&H Company yielded to this demand in 1859 when it began running a passenger car attached to a freight car between Carbondale and Providence once each day. Locomotives pulled these trains from Providence to Valley Junction, then stationary steam engines and gravity took over to propel them to Carbondale. This passenger service proved so popular that by 1864 it was expanded to three trains per day (every day but Sunday), and nearly 5,000 riders were using it each month.

As the public embraced railroad travel, the gravity railroads were put to a novel use. Groups began hiring a car or two to take them on picnicking excursions to the top of Moosic Mountain. When these picnickers returned with descriptions of spectacular views and breathtaking runs down the side of the mountain, other folks were inspired to make the journey. PCC and D&H operators soon had so many requests for excursions that they decided to institute regularly scheduled passenger service.

The Pennsylvania Coal Company was first out of the chute. A notice datelined “Scranton, August 1, 1874” advertised the opening of the PCC’s “GREAT NEW PLEASURE ROUTE,” extending 61.15 kilometers (38 miles) “Through a Country unsurpassed for Beautiful Scenery, Fine Views and Sublimity of Natural Grandeur.” A first-hand account of a trip over Moosic Mountain via the PCC Gravity Railroad was published by H. Hollister in his 1885 History of the Lackawanna Valley. It read as follows:

A ride upon a coal-train over the gravity road of the Pennsylvania Coal Company, from Pittston to Hawley, is not without interest or incident.” Starting from the banks of the Susquehanna, it gradually ascends from the border of the Moosic Mountain for a dozen miles, when, as if refreshed by its slow passage up the rocky way, it hurries the long train down to the Dyberry at Hawley with but a single stoppage.

Let the tourist willing to blend venture with pleasure, step upon the front of the car as it ascends Plane No. 2, at Pittston, and brings to view the landscape of Wyoming Valley, with all its variety of plain, river, and mountain, made classic by song and historic by her fields of blood. The Susquehanna, issuing from the highland lakes of Otsego, flows along, equaled only in beauty by the Rhine, through a region famed for its Indian history—the massacre upon its fertile plain, and the sanguinary conflict between the Yankees and Pennymites a century ago. The cars, freighted with coal, move their spider-feet toward Hawley. Slow at first, they wind around curve and hill, gathering speed and strength as they oscillate over ravine, woodland, and water. Emerging from deep cuts or dense woods, the long train approaches Spring Brook. Crossing this trout stream upon a trestling thrown across the ravine of a quarter of a mile, the cars slacken their speed as they enter the narrow rock-cut at the foot of the next plane. While looking upon the chiseled precipice to find some egress to this apparent cavern, the buzz of the pulley comes from the plane, and through the granite passage, deep and jaw-like, you are drawn into the very top of engine-house No. 4.

The Lybian desert, in the desolation of its sands, offers more to admire than the scenery along the level from No. 4 to No. 5. Groups of rock, solitary in dignity and gray with antiquity, are seen upon every side; trees grow dwarfed from their accidental foothold; and only here and there a tuft of wild grass holds its unfriendly place. The babbling of a brook at the foot of No. 5, alone falls pleasantly upon the ear. As the cars roll up the plane, the central portion of the valley is brought before the eye on a scale of refreshing
HISTORICAL NARRATIVE (Contd.):
magnificence. The features of the scenery become broader and more picturesque. The Moosic range, marking either side of the valley, so robed with forest to its very summit as to present two vast waves of silent tree-top, encircle the ancient home and stronghold of Capoose. As you look down into this amphitheater, crowded with commercial and village life, catching a glimpse of the river giving a richer shade to a meadow where the war-song echoed less than a century ago, evidences of thrift everywhere greet and gladden the eye.

At No. 6, upon the northern bank of the Roaring Brook, are located the most eastern mines of this company, being those which are situated the nearest to New York City. These consist of a series of coal deposits, varied in purity, thickness, and value, but all profitably worked. The largest vein of coal mined here is full eight feet thick, and is the highest coal mined on the hill northwest of Plane No. 6.

Upon the opposite range of the Moosic Mountain in the vicinity of Leggett's Gap, this same stratum of coal is worked by other companies. Each acre of coal thus mined from this single vein yields about 10,000 tons of good merchantable coal.

The Delaware, Lackawanna, and Western Railroad, crosses that of the Pennsylvania at No. 6, giving some interest to the most flinty rocks and soil in the world. No. 6 is a colony by itself. It is one of those humanized points destitute of every natural feature to render it attractive.

On either side of the ravine opening for the passage of Roaring Brook, the sloping hill, bound by rock, is covered with shanties sending forth a brogue not to be mistaken; a few respectable houses stand in the background; the offices, store-house, workshops, and the large stone car and machine shops are located on the northern bank of the brook. Some sixty years ago a sawmill erected in this piny declivity by Stephen Tripp, who afterward added a small grist-mill by its side, was the only mark upon the spot until the explorations and survey of this company. This jungle, darkened by laurels blending their evergreen with the taller undergrowth, was more formidable from the fact that during the earlier settlement of Dunmore it was the constant retreat of wolves.

Over this savage nook, industry and capital have achieved their triumphs and brought into use a spot nature cast in a careless mood. At the head of No. 6 stand the great coal screens for preparing the finer quality of coal, operated by steam-power.

Up the slope of the Moosic, plane after plane, you ascend along the obliterated Indian path and the Connecticut road, enjoying so wide a prospect of almost the entire valley from Pittston to Carbondale, that for a moment you forget that in the crowded streets elsewhere are seen so many bodies wanting souls. Dunmore, Scranton, Hyde Park, Providence, Olyphant, Peckville, Green Ridge, and Dickson appear in the foreground, while the Moosic, here and there serrated for a brook, swings out its great arms in democratic welcome to the genius of the artificer, first shearing the forest, then prospering and perfecting the industrial interest everywhere animating the valley. The long lines of pasturage spotted with the herd, the elongated, red-necked chimneys distinguishing the coal works multiplied almost without number in their various plots, give to these domains a picturesqueness and width seen nowhere to such an advantage in a clear day as on the summit of Cobb Mountain, two thousand feet above the tide.
HISTORICAL NARRATIVE (Contd.):

Diving through the tunnel, the train emerges upon the “barrens,” where, in spite of every disadvantage of cold, high soil, are seen a few farms of singular productiveness. The intervening country from the tunnel to Hawley, partakes of the hilly aspect of northern Pennsylvania, diversified by cross-roads, clearings, farm-houses, and streams. Here and there a loose-tongued rivulet blends its airs with the revolving car-wheel humming along some shady glen, and farther along, the narrow cut, like the sea of old, opens for a friendly passage. Down an easy grade, amidst tall, old beechen forests half hewn away for clearings and homes of the frugal farmers, the cars roll at a speed of twelve miles an hour over a distance of some thirty miles from the tunnel, when, turning sharply around the base of a steep hill on the left, the cars land into the village of Hawley, a vigorous settlement, existing and sustaining itself principally by the industrial manipulations of this company.

Once emptied, the cars return to the valley upon a track called the light track, where the light or empty cars are self-gravitated down a heavier grade to the coal-mines. Seated in the “Pioneer,” a rude passenger concern, losing some of the repelling character of the coal car, in its plain, pine seats and arched roof, you rise up from the plane from the Lackawaxen Creek a considerable distance before entering a series of ridges of scrub-oak land, barren both of interest and value until made otherwise by the fortunes of the company. Leaving Palmyra township, this natural barrenness disappears in a great measure as you enter the richer uplands of Salem, where an occasional farm is observed of great fertility, in spite of the accompanying houses, barns, and fences defying every attribute of Heaven’s first law. About one mile from the road, amidst the quiet hills of Wayne County, nestles the village of Hollisterville. It lies on a branch of the Wallenpaupack, seven miles from Cobb Pond, on the mountain, and ten miles above the ancient “Lackwa” settlement.

Up No. 21 you rise, and then roll toward the valley. The deepest and greatest gap eastward from the Lackawanna is Cobb’s, through which flows the Roaring Brook. This shallow brook, from some cause, appears to have lost much of its ancient size, as it breaks through the picturesque gorge with shrunken volume to find its way into the Lackawanna at Scranton.

This gap in the mountain, deriving its name from Asa Cobb, who settled in the vicinity in 1784, lies three miles east of Scranton. It really offers to geologist or the casual inquirer much to interest. . . . Emerging from beech and maple woodlands, you catch a glimpse of a long, colossal ledge, bending in graceful semicircle, rising vertically from the Roaring Brook some three hundred feet or more. Its face, majestic in its wildness, as it first greets the eye, reminds one of the palisades along the Hudson. As it is approached upon the cars, the flank of the mountain defies further progress in that direction, when the road, with a corresponding bend to the left, winds the train from apparent danger, moving down the granite bank of the brook deeper and deeper into the gorge, enhanced in interest by woods and waterfall. The hemlock assumes the mastery of the forest along the brook, whose waters whiten as they pour over precipice after precipice into pools below, which but few years since were so alive with trout, that fishing half-an-hour with a single pole and line supplied the wants of a family for a day with this delicious fish. In the narrowest part of the gap, the cars run on a mere shelf, cut from the rock a hundred feet from the bed of the stream, while the mountain, wrapped in evergreens, rises abruptly from the track many hundred feet.
HISTORICAL NARRATIVE (Contd.):

The great pyloric orifice of Cobb's gap, once offering uncertain passage to the Indian's craft, illustrates the achievement of art over great natural obstacles. Roaring Brook, Drinker's turnpike, now used as a township road, the Pennsylvania and the Delaware, Lackawanna, and Western Railroad, find ample place under the shadow of its walls.

A ride of an hour, far up from the bottom of the valley through a forest trimmed of its choicest timber by the lumbermen and shingle-makers, brings the traveler again to Pittston, renovated in spirits and vigor, and instructed in the manner of diffusing anthracite coal throughout the country.

Passenger trains on the PCC Gravity consisted of two 20-person passenger cars and a baggage car. At first, tickets were sold only in Hawley and Dunmore, but as a schedule of regular stops was established at the engine houses on each of the planes, tickets were made available at all of these locations. To encourage patronage, the PCC established a picnic grounds and bathing area at Lake Ariel, midway between Dunmore and Hawley.

The D&H Company began offering excursion service over its gravity railroad in April 1877. As an added attraction, the company developed a picnic grounds called “Farview” on the east side of Rix's Gap. Partly because of the appeal of Farview and the panoramic vista it provided of heavily-wooded Wayne County, the D&H Gravity soon became more popular among excursionists than the longer PCC Gravity.

The Pennsylvania Coal Company's foray into locomotive-powered railroading between Hawley and Lackawaxen in 1863 had proved to company officials that the future lay not in contorted gravity railroads and sluggish canals, but in sleek, all-weather “steam roads.” This fact was further underscored later that decade when some D&H officers and Honesdale businessmen revived a long-dormant charter for a locomotive line projected to run between the PCC railroad in Hawley and the eastern outskirts of Honesdale. As soon as this 14.48-kilometer (9-mile) “Jefferson Railroad” was opened to traffic on July 13, 1868, the D&H Canal Company began shipping coal from Honesdale to Hawley by railroad rather than canal.

Even as excursionists and cross-country travelers flocked to its gravity railroad in the 1870s and 1880s, the PCC was making plans to replace the tourist attraction with a standard railroad. A logical partner in this venture was the Erie Railroad Company, to whom the PCC had leased its Hawley-Lackawaxen line. With financial assistance from “The Erie,” the PCC began building what it called “The Erie and Wyoming Valley Railroad” in the summer of 1882. The new line closely followed the route of the PCC Gravity, but never actually appropriated its right-of-way, because the Gravity had to keep functioning while its successor was being completed.

The finishing touches were put on the Erie and Wyoming Valley Railroad late in 1885, and as its locomotives finally began crossing Moosic Mountain with coal cars in tow, the last trips rolled over the PCC Gravity on December 18. In the coming months, the company's 3,600 now-obsolete coal “gondolas” were brought to a stretch of track overlooking Roaring Brook, near the company's car shops at Dunmore. There the wooden car bodies were pushed off their "trucks" or chassis and down to the creek bed where they were burned and their iron parts later salvaged for scrap. Once the coal cars had been dispatched, the Gravity's tracks were torn up over the course of five weeks in 1886.
HISTORICAL NARRATIVE (Contd.):

The demise of the PCC Gravity dramatically changed the face of Hawley. The town’s importance as a boating center had already begun to wane when the PCC opened the Hawley-Lackawaxen Railroad in 1863 and stopped using the corresponding stretch of the D&H Canal. Hawley barely missed a beat at that time, however, as the lost work of transferring coal from gravity cars to canal boats was more than made up for by the new work of transferring coal from gravity cars to railroad cars. The closing of the Gravity two decades later had more damaging effects. Since coal now rolled directly from the Wyoming Valley mines into the Erie Railroad system, there was no need for coal handling at Hawley’s coal-storage “pockets.” This threw many Hawley residents out of work. Some of the unemployed chose to move to the other side of Moosic Mountain where there were similar kinds of employment available around the mines at Olyphant, Archbald, Pleasant Valley (now Avoca), Pittston, and Scranton. Other PCC workers found new opportunities in some of Hawley’s recently-built factories, including the Lambert silk mill and the Hawley Glass Company. Still, the town’s economy suffered a severe blow.

Near the western end of the PCC Gravity, Dunmore fared much better. Transportation improvements in the Northern Coal Field stimulated mining activity and created more employment opportunities in the Lackawanna Valley. The Erie and Wyoming Railroad Company built its shops in the Borough, and established alongside them its main rail yards and round houses. This in itself more than made up for jobs lost through the closing of the Pennsylvania Coal Company’s gravity railroad. When the Erie Railroad Company acquired the Erie and Wyoming Railroad Company in 1901, additional shops were built in Dunmore. Until the precipitous decline in the local anthracite industry during the late 1950’s—a deterioration that pushed the once-powerful and regionally dominant Pennsylvania Coal Company to the brink of bankruptcy—Dunmore not only survived the loss of its celebrated gravity railroad, but continued to enjoy growth in its economy, industry, population, and culture.

HISTORICAL SIGNIFICANCE:

The evaluation of the significance of the PCC’s Gravity Railroad utilizes a number of sources. National Register Bulletin 15: “How to Apply the National Register Criteria for Evaluation” (National Park Service 1991a) was utilized as the primary document. National Register Bulletin 30: “Guidelines for Evaluating and Documenting Rural Historic Landscapes,” and the draft copy of the Railroad Context for Pennsylvania Resources were also consulted in evaluating the railroad (National Park Service 1991b; Cooper 1996). Recent work performed in association with the Lackawanna Valley Industrial Highway project provided additional historic contexts within which to evaluate the Gravity Railroad (Basalik, et al. 1992; Ruth 1996).

The Pennsylvania Coal Company Gravity Railroad appears to meet Criterion A (History), Criterion C (Engineering), and Criterion D (Information Potential). The Pennsylvania Coal Company’s Gravity Railroad is an important transportation resource that played a crucial role in the nineteenth-century development of the Lackawanna and Wyoming valleys. The PCC’s Gravity Railroad is significant within the historic contexts of transportation, engineering, and industry for the period between 1850 and 1885, as outlined in The Lackawanna Valley Industrial Highway Cultural Resources Survey and Eligibility Report (Basalik et al. 1992). The abandoned railroad right-of-way forms a contiguous linear historic district extending from Hawley, through Dunmore, to its terminus in Port Griffith in Luzerne County.
HISTORICAL SIGNIFICANCE (Contd.):

The Pennsylvania Coal Company Gravity Railroad appears to meet National Register Criterion A, for its contribution to the development of an important transportation network which helped in the regional distribution of coal and other manufactured goods. The establishment of such an advanced rail network in turn had an enormous affect on the history and development of the Lackawanna and Wyoming valleys. The PCC Gravity made possible the exploitation of the vast anthracite coal resources in the Wyoming Valley, fostering industrial, residential, and commercial growth in the region. For thirty-five years the Pennsylvania Coal Company Gravity Railroad and the development it sparked formed the backbone of the region's economy. The blow dealt by the closure of the Gravity to some settlements along the line stands witness to the degree to which the villages relied on the commerce generated by the railroad. Hawley, in particular, once described as "a vigorous settlement, existing and sustaining itself principally by the industrial manipulations of this company (Pennsylvania Coal Company)," began a steady decline with the closing of the Gravity (Ruth 1996:49, 60). The loss of their primary employer caused great economic and social upheaval for towns that relied on the railroad for their livelihood.

The Pennsylvania Coal Company Gravity Railroad appears to meet Criterion C for its importance as a distinctive example of early-nineteenth-century transportation engineering using a variety of unusual methods to overcome substantial physiographic constraints. The engineering and skill required for the construction of PCC's Gravity Railroad was exceptional for the period. The new Gravity was longer than the Delaware and Hudson Gravity, employing 12 planes and connecting levels on its 75.18-kilometer (46.72-mile) loaded track, and 10 planes and connecting levels on its 70.10-kilometer (43.56-mile) light track. Linked only by two crossovers, the tracks traveled independent routes sometimes as much as 4.82 to 6.43 kilometers (3 to 4 miles) apart. Planes 1 through 11 with their connecting levels on the loaded track covered the 32.18 kilometers (20 miles) between Port Griffith and the ridge of Moosic Mountain east of Dunmore. After ascending Plane 11, trips of five loaded coal cars coasted down through a 230.12-meter (755-foot) tunnel bored under the crest of the mountain. This was the beginning of their 45.06-kilometer (28-mile) gravity-propelled ride over two long levels (Numbers 11 and 12), each about 22.53 kilometers (14 miles) long, to the D&H Canal at Hawley.

The Gravity also appears to meet Criterion D for its potential to yield significant information about the technology utilized in the construction and operation of the railroad and about the living conditions of the workers. The spatial arrangement of the domestic buildings, and their relationship to the railroad infrastructure, has the potential to inform investigators about the relationship of workers to both their place of work and to their residences. No archaeological testing was undertaken in conjunction with this survey. However, should testing be performed in the future, the material recovered has the potential to shed additional light on the lives of the Gravity employees.

The design and construction of a Gravity Railroad, especially one of such great length crossing inhospitable terrain, was a major feat of engineering for its day. The PCC Gravity was the longest railroad of its type, wending its way between Port Griffith in Luzerne County, past Dunmore in Lackawanna County, on to Hawley in Wayne county. The ruins of engine houses and planes are evidence of the PCC's implementation of advanced technology in the construction of the Gravity. State-of-the-art engineering practices are also embodied in these remains. The rail line retains integrity, with the majority of the right-of-way still intact, and the foundations of engine houses, reservoirs, and worker housing visible at some of the planes. In addition, the office/shop complex in Dunmore survives. The Pennsylvania Coal Company Gravity railroad appears to be a significant resource.
NATIONAL REGISTER BOUNDARY AND JUSTIFICATION:

The National Register Boundary for the Pennsylvania Coal Company Gravity Railroad Historic District follows the length of the railroad's loaded and light tracks and includes all significant structures and remnants associated with the Gravity. The resource consists of multiple elements, including the former right-of-way (with planes and levels), a tunnel, and dry masonry bridge abutments and culverts. Also extant are the remains of buildings at the head and/or feet of some of the planes, remains which include foundations of engine houses and employee residences, reservoirs, and outbuildings. In the Borough of Dunmore several PCC-related buildings survive, including maintenance and story shops, as well as the Company's main office building. The boundary encompasses the Gravity's right-of-way, which averages 24.38 meters (80 feet) along the 145.29-kilometer (90.28-mile) length of both tracks. The boundary deviates from this width at the heads and the feet of the planes, where additional right-of-way was necessary to allow for the inclusion of engine houses and other buildings necessary to the functioning of the railroad. At this point the boundary increases to a minimum diameter of 91.44 meters (300 feet) to include all remnants of buildings or structures associated with the functioning of the PCC Gravity. In the Borough of Dunmore the boundary extends to encompass the former Pennsylvania Coal Company office and repair shops located on Mill Street. This boundary was prepared in accordance with guidelines set forth in the National Register Bulletin 21: "How to establish boundaries for National Register Properties" (National Park Service 1987).

The period of significance for the Pennsylvania Coal Company Gravity Railroad spans the years from 1850 to 1885. Contributing elements in the district include stretches of former right-of-way (along both "levels" and "planes"), "cuts" where stone and earth were blasted away to make room for the right-of-way, remnants of engine house and employee residence foundations, vestigial elements of brick-lined reservoirs, dry masonry bridge abutments, and culverts, and the Gravity's once-famous tunnel. The office/shop complex in Dunmore also contributes to the significance of the Gravity railroad for its role in the Gravity's maintenance and administration. In their operative state, these features were all integral to the daily functioning of the line. Non-contributing portions of the road are the sections of the line that no longer remain readily identifiable as part of the Gravity's route. This is typically the case in areas where the right-of-way has been undermined by modern development. In the Port Griffith section of the railroad, the non-contributing sections include Planes 1 through 3 with their connecting levels, all but a portion of Plane 4 and its level, and Plane 22 with its level. These sections disappeared with the expansion of the surrounding urban areas. Moving farther to the northeast, non-contributing areas consist of Planes 6, 7, and 8 with their connecting levels, and a small section of Level 11, where a housing development has intruded.

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Cultural Heritage Research Services

National Park Service


Rothwell, R.P.
1869 Map of the Wyoming Anthracite Coal Fields, Pennsylvania. From original surveys by R.P. Rothwell, mine engineer, Wilkes Barre, PA.

Ruth, Philip

United States Geological Survey


United States Geological Survey