Part II - Albert Lewis: Ice King

Part II

V. The American Ice Industry

Prior to the 1830s, food was generally preserved by salting, spicing, pickling, or smoking. Butchers slaughtered meat only for the day's trade, as preservation for longer periods was not practical. Milk and dairy products and fresh fruits and vegetables subject to spoilage were sold in local markets since storage and shipping farm produce over any significant distance or time was not practical. Indeed, milk was often hauled to city markets at night when temperatures were lower or its manufacture was limited to the cooler months.

The early ice industry was localized. Farmers cut small harvests from local ponds, and only better homes, taverns, and hotels purchased ice from local dealers. Ice was a luxury not commonly available to the general public except for cooling drinks.

Urbanization, improved ice-box technology, and consumer demand, including the popularity of mineral waters, fruit juices, and ice cream, stimulated the creation of an American ice industry. Farmers increased their use of ice for meat and dairy products. Food cooled with ice could be shipped by railroad to more distant places. During the last half of the

nineteenth century, ice became a necessity for home and business, and by the 1870s there were substantial ice dealers in medium-sized communities like Wilkes-Barre and Scranton.

The first commercial ice dealer in Wilkes-Barre was Capt. Gilman Converse, once the captain of the *Wyoming*, a 128-foot steamboat which hauled freight and passengers on the Susquehanna River from 1849 to 1852 between Tunkhannock and Pittston, with occasional trips to Wilkes-Barre. Gilman sold ice from 1855 to 1865, cutting it from the Susquehanna River and local ponds. After Gilman's business was destroyed in a massive flood of the Susquehanna River in March 1865, he was succeeded by the Wilkes-Barre Ice Company, which was followed by the Wyoming Valley Ice Company in 1869.

By 1880, an estimated five million tons of ice was consumed by the American public. Pennsylvania was the nation's third largest producer of ice, following Maine and New York. Pennsylvania consumed about one million tons annually, cut on the state's lakes and rivers or bought from Maine and New York ice firms. The industry, by this time, also supported major conglomerate ice firms; the most well-known was the Knickerbocker Ice Company of New York, which also reached into Pennsylvania. With the growth of the ice industry during the 1880s, substantial regional companies were formed at White Haven, Tobyhanna, Pocono Lake, and elsewhere in the Pocono Mountains.

During the 1880s the White Haven Ice Company cut ice from the Lehigh River at White Haven. It had a nine hundred ton ice storage house at

the Central Railroad yard in central Wilkes-Barre. The Knickerbocker Ice Company, based in New York and Philadelphia, also had ice depots in White Haven.

The two major ice companies in Luzerne County from the 1890s to the World War II era were at Mountain Springs near Ricketts Glen, and at Bear Creek near Wilkes-Barre. Both were originally formed by Albert Lewis.

VI. The Bear Creek Ice Industry

[The Formative Years 1881-1894]

On January 10, 1881, the Lewis and Brodhead lumber firm advanced $3,000.00 to initiate an ice business, and an ice house was erected at Bear Creek Village at Dam No. 1 by A. Ryman & Son, a Wilkes-Barre contractor. Men were employed from early January to mid-February 1881 to cut ice on the Bear Creek pond and to fill the small ice house. During the summer ice was shipped from Bear Creek by railroad to various small purchasers, particularly the ice dealer Boarman and Keubler in Easton. Lewis also scouted out potential Pennsylvania ice buyers in Easton, Philadelphia, Pittston, Scranton, Allentown, and Reading, and in Trenton, New Brunswick, and Elizabeth, New Jersey.

The ice business expanded in the winter of 1882-83. During the year the company sold ice to a variety of small firms in the coal region and helped to supply the local Laurel Run Ice Company. In 1883 the company was shipping ice on a regular basis to the Carpenter Ice Company in Scranton and Philadelphia,

Boarman and Keubler in Easton, J.E. Patterson in the Wyoming Valley, and to a widening array of firms in the coal towns of Hazleton, Jeansville, Drifton, and Jeddo. During the next ice harvest of January 1884 Lewis also began regular ice shipments to the Lehigh Valley Railroad, but his major purchaser was still the Laurel Run Ice Company. In 1885 a larger ice house at Bear Creek Village could store 1,000 tons and by 1887 there is evidence of ice cutting at Beaupland (later Beauplant). In 1889 Dam No. 1 at the village had three storage rooms, and in the 1888-89 winter harvest Lewis shipped 1,000 railroad cars of ice. These storage houses at Dam No. 1 were 30 feet wide, 30 feet high but varied in length from 100 feet to 250 feet. The total storage capacity was 7,000 tons. In October 1891 Lewis built a major new plant at Bear Creek with a 6,900 ton capacity.

The winter harvest usually began in January and lasted about six or seven weeks, sometimes even into early March. The season could start earlier or later depending on when the winter freeze provided ice of eight to ten inches or preferably thicker. Men led a team of horses or mules which pulled large scoops to clear the snow off the pond. Then a straight line was sighted along the pond's surface, and the animals pulled an ice plow with its series of large teeth along the line which bit into the ice a couple of inches. An extended arm on the plow would also scratch a parallel line a set distance from the plow (22 or 28 inches, in later years 32 inches). A few plows along each set of lines, and also plows along cross-lines the opposite way, cut the ice field in a 22 x 28 inch pattern, almost like a checker-board. The plows would cut the patterned ice to within the last couple of inches of its maximum depth.

A "float" containing a large group of these pre-formed ice cakes could be hand sawed or spudded off with a long bar chisel and floated through an open channel of water to the "water box" near the storage plants where they were broken into strips of cakes and finally into individual 22 x 28 inch cakes. The cakes were shipped directly out by railroad or hauled up an incline plane and stored in the ice houses for shipment during the balance of the year. Ice cut during the winter and shipped directly on to railroad cars was called "water ice."

In early January 1893 Albert Lewis hosted a railroad and sleigh party of Lehigh Valley Railroad officials and local newspaper editors to the facilities at Bear Creek. The local papers described the ice-cutting process:

> Fully a foot of snow lies on the level at Bear Creek and it is quite a job to keep as much ice cleared up as can be cut. Several teams are necessary with great scoops and they can scarcely keep ahead of the cutting. The weather has been so cold (mercury 10 or 12 below zero) that new ice forms rapidly after the blocks are taken out. Last year three successive crops were gathered from the same water.
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> Saws are too slow and are no longer employed. Instead there are ice plows, each drawn by a span of horses. A plow cuts a slit down into the ice and this is gone over three

times, after which the slit is 8 or 10 inches in depth. Then parallel slits a couple of feet apart are cut and cross slits, making the blocks nearly square, or actually 22 x 28 inches. By thrusting spears or forks down into the slits, the cakes are easily separated, after which they are propelled by steam up an inclined plane, the summit of which is 62 feet above the ground. They slide up the toboggan in quick succession, with intervals of not more than ten or a dozen feet between. On their ascent they pass under a planer and an inch or two of the surface is shaven off, making the blocks of uniform thickness and corrugating them slightly on the upper side. After reaching the "head house" the blocks are started off on a gravity slide on their way to the ice houses and the cars. By means of switches the blocks are diverted from the main line and shot off on other planes leading to ice houses or cars. Three or four cars can thus be loaded at once, as well as an ice house or two filled. There are four ice houses here, with a storage capacity of 8,000 tons. The largest is 267 feet long, 30 feet wide and 20 feet high.

There were shipped by rail last year 16,780 tons, making the

total annual production about 25,000 tons. The output this year will be even larger. When the weather is favorable 100 cars of 20 tons each can be shipped in a day of 10 hours. The number of men employed is from 70 to 80. The ice now being cut is a splendid quality, 16 inches thick. The harvesting of the ice is in the charge of Augustus Garis and the shipping of it by C.W. Shollar. Two locomotives are engaged in hauling it to the main line at Bear Creek Junction. As the grade from Bear Creek to the summit is 175 feet to the mile, an engine can haul only three cars at a trip.

Besides this extensive plant at Bear Creek Mr. Lewis has three ice houses on the Lehigh--two at White Haven and one at Tannery.

Fully one half the ice goes to Wilkes-Barre, or about 400 car loads, the rest finds a ready market in New York and Philadelphia.

[The Rebuilding Years 1895-1912]

On March 21, 1895, Albert Lewis formed the Bear Creek Ice Company. Capitalized at $75,000.00, Lewis owned 715 of the company's authorized 750 shares. The remaining thirty-five shares were held by seven business associates, at five shares each,

including R.P. Crellin of White Haven and William R. Stull (a son of Daniel Stull) of Alderson at Harvey's Lake. These associates were probably not actual partners but accommodated Lewis to permit the company to obtain limited liability rights under state law at that time when in fact it was an unincorporated business solely owned by Lewis for all practical purposes.

On March 15, 1901, four of the area's largest ice companies--the Wyoming Valley Ice Company, Summit Lake Company, Pocono Company, and the Bear Creek Ice Company--consolidated their marketing arrangements under the name Wyoming Valley Ice Company. The President of the firm was W.S. McLean, and the new company would manage sales in the Wyoming Valley for the various companies. Actually, it was a scheme to divide the Valley into separate territories with the companies having a monopoly in assigned areas without the previous competition in the Valley towns among the companies. This arrangement lasted for many years among the regional ice men.

The larger ice companies principally sought large contracts to supply ice to the railroads. Ice was needed to cool meat and produce shipped by the railroad companies before mechanically refrigerated freight cars were available. Ice was sold in huge lots to meat-packing firms, breweries, and other business firms. Ice was also wholesaled to ice suppliers in the Wyoming Valley, New Jersey, and New York. Some companies also had their own retail distribution outlets in Wilkes-Barre, Pittston, Hazleton, Scranton and other towns. Usually, these outlets were in rail yards. The ice company would sell directly to customers from a

box car of ice at the yard, usually by 100 pound weight, or to the small business man who had a wagon-team and bought a load of ice to supply his customers, particularly the saloons, meat and grocery stores, or the ice-man hawked it up and down the city streets to local residents.

The companies also had store houses at the railroad yards (the wholesale district) from which ice was sold. They could employ their own teamsters to supply the city's business and residence needs. Home owners had "ice tags" displayed on their front window. The tag was designed to be hung in a certain position to indicate the pounds of ice the household wanted from their ice man. Households were charged more for ice than business firms. In April 1907, for example, for 100 pounds of ice a family residence paid thirty-five cents (usually households bought smaller lots); hotels paid twenty-five cents; butcher shops paid twenty cents. With several companies selling ice in the Wyoming Valley, the formation of the Wyoming Valley Ice Company to regulate the local market was essential to the operators but it also lessened the likelihood of competition and lower prices for customers. The cost of ice was a regular complaint which was debated in the newspapers in the early decades of this century.

Between 1895 and 1909 the Bear Creek Ice Company facilities were completely rebuilt. Before the 1895-96 ice harvest, too, Lewis constructed his first two room ice storage plant at Beaupland's Dam No. 3. An early winter in 1895 produced nearly 1,400 tons of ice from Dam No. 1, and at Beaupland in late December sixty-nine rail cars shipped ice to market. But nearly ten times more ice was cut and freighted

out by the Bear Creek Ice Company in a very cold January 1896 when 18,471 tons were shipped on 940 cars. In 1895 the "Hungarian" workmen received $1.20 per day with a thirty-five cents daily meal allowance deducted from their pay.

Between 1895 and 1900, the company cut ice from Bear Creek with supplemental ice from Beaupland. In December 1898 the Lehigh Valley Railroad formally extended the terminus of its Bear Creek Branch by 2,063 feet (not quite one-third of a mile) at Beaupland to reach the expanding ice plants there. Lewis also had a 559 foot siding at Beaupland to hold ice cars during the ice season.

While the record is not entirely clear, it seems Lewis had built six ice plants along Dam No. 1 in the 1885-1900 period. The earliest substantial plant was built along the turnpike road near the east abutment of the dam, but five plants later followed along the eastern shore of the lake. There was a two-room ice plant along the railroad track some distance back from the island. Further along the rail bed, nearly 300 feet from the pond, was an immensely long plant followed by a third plant along the track. The next facility was Lewis's 1894 sawmill. Then there was a group of five houses, next to Sand Spring Run, which formed another ice plant. On the other side of the small stream was another two-room plant. These latter plants were close to the lake.

Before the 1907-08 winter harvest the facilities underwent major reconstruction. The plant by the island was rebuilt as two new ice houses with three rooms each. The railroad ran between the twin houses. This 20,000 ton facility became Plant No. 1.

The long plant was dismantled along with the plant beyond it. The plant next to Sand Spring Run, along the shore, had five rooms by 1900, with two additional rooms added before the 1900-1901 harvest with a final eighth room added by 1909-10 when the 36,000 ton facility because Plant No. 2. The remaining plant on the other side of Sand Spring Run was abandoned.

During the winter ice harvests the older houses had been filled by running ice up inclined planes. (Incline planes were a dated system of hauling ice from the lake up long slides. At the top of the planes the ice cakes slid along chutes to the various storage rooms at the plants.) The newer ice plants had faster conveyor systems - an endless or revolving chain which drew ice blocks from the pond and along a conveyor or elevator-like system which dropped the blocks on to chutes which ran into the storage rooms at each plant.

Before the 1907-08 harvest, the company built a new six room plant at Beaupland's Dam No. 2. The facility became the 24,500 ton capacity Plant No. 3 in 1908. The old ice plant at Dam No. 3 was expanded from two rooms to four rooms for the 1900-1901 season, but by 1904-05 only two rooms were in use and this original plant dating back to 1895-96 was abandoned after the 1908-09 harvest. A new facility called Plant No. 4 with two rooms was built at Beaupland's Dam No. 3 in 1899-00 with another two rooms added in 1900-01 and a fifth room in 1906-07. This completed No. 4 Plant had a 16,500 ton capacity.

From March to December ice shipments were

made from the huge reserves in the ice houses at Bear Creek and Beaupland, and later from Meadow Run when storage plants were built in 1909. By 1896 the Bear Creek Ice Company had at least two dozen regular buyers of ice. The largest purchaser was the Lehigh Valley Railroad, buying ice for the shipment of beef and farm produce on its extended railroad system. Other major buyers were regional slaughterhouses like Swift and Company, Armour Packaging, and meat packing firms at Hazleton and Freeland. Lewis also supplied regional and New Jersey/New York ice firms, particularly the Union Ice Company in New York, and Drake and Company in Jersey City and New York. D.G. Yuengling, a regional brewer with a Hazleton facility, received regular deliveries.

In the period of 1896-1902 annual sales of ice rose from $14,500 to $68,000. The cost of harvesting, wages, taxes, and insurance also rose from $10,800.00 to $58,200.00 in 1901, dropping to $56,000.00 the next year. New construction costs in these seven years totaled $43,000.00, of which $29,000.00 was spent in 1898 and 1900. Ice held in storage plants for sales rose from 24,300 tons in 1896 to nearly 70,000 tons in 1901 and 67,000 tons in 1902, reflecting the expanded plant facilities. The company's average yearly profit in these years was $9,200.00, breaking the $10,000.00 mark in April 1899.

The size of the Bear Creek ice operations is revealed in a February 1904 news article:

> The Bear Creek Ice Co. have
> cut about 80,000 tons of ice at Bear

Creek and in addition to this amount the Lewis Lumber Co. have cut at Bean Run, near the headwaters of Bowman's Creek, about 30,000 tons. All of the ice harvested at Bear Creek is shipped to the large cities, New York, Philadelphia, etc., via the Lehigh Valley R.R., and about one-fourth of the amount harvested has already been shipped to those points. This leaves about 60,000 tons in the ice houses at Bear Creek. The crop which they have stored at Bean Run will nearly all be used in Wilkes-Barre and vicinity.

To harvest the crop at Bear Creek it was necessary to employ about 150 men for a month and 100 for an additional two weeks. They commenced to cut the ice about December 21 and finished on February 12. They have had the coldest winter at Bear Creek that they ever had, and this in conjunction with the heavy snowfall has made the harvesting of the crop a very difficult operation and has considerably increased the expense. Some of the ice was so heavy, too, that it was necessary to cut it down so as to make it marketable. At last reports the ice was twenty-six inches thick and to be marketable it should not be over eighteen inches in thickness.

> Hard coal is allowed to be used in the harvesting and transportation of ice from this place, as the use of soft coal is injurious to the ice on account of the great amount of smoke and dirt that escapes from it. To transport the amount of ice which is reserved for the use of Wilkes-Barre alone, about 73,000 tons, allowing twenty-five tons to a carload, which is the average amount carried, would require a train of 2,920 cars. Allowing thirty-six feet for the outside length of a car, it would require a train about twenty miles in length, exclusive of the engines.
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> Taking into consideration the ice which is shipped from Bear Creek to distant cities, it would require 6,120 cars, or enough to make a train forty-two miles in length. This would make a solid string of freight cars, without any space being taken by engines, stretching from Kingston to Bloomsburg.

The company generally planned on major renovations to its facilities every eight to ten years apart from annual maintenance and repair costs. The 1907-08 renovations by the Bear Creek Ice Company included the reconstruction of Dam No. 3 at Beaupland. Expenses were heavy and with $102,000.00 in ice sales in 1907 only $8,200.00 emerged as profit. In 1908 with further construction

and repairs at Dams 1, 2, and 3 and Plants Nos. 1,2,3, and 4, along with railroad improvements to Beaupland, profit was limited to $2,000.00 on $112,000.00 in ice sales.

Expanding the company's facilities continued in 1910 at Meadow Run's old logging ponds where Dam No. 4 was rehabilitated and Dam No. 5 was rebuilt. At Meadow Run's Dam No. 4 rail and conveyor facilities were built to load ice from the pond on to railroad cars. At Dam No. 5 a six room ice house with a 20,000 ton capacity was built to the left of the track, and in 1911 a four room house was built on the opposite side of the railroad track with a fifth house shortly added. This Plant No. 6 was built from Lewis's own lumber stock. The conveyors and mechanical systems were purchased from Gifford-Wood in Hudson, New York. Gifford-Wood was the nation's largest supplier of natural ice tools and ice plant systems. Total storage capacity at Plant No. 6 was close to 42,000 tons. In addition, over $20,000.00 was spent on rebuilding the railroad to Meadow Run.

By 1911-12 the ice plants at Bear Creek, Beaupland, and Meadow Run had a total storage capacity of 139,500 tons in addition to the roughly 25,000 tons of "water ice" shipped directly on the railroad during the winter harvest. In a good season, the company hoped to store and ship seventy-five per cent of storage capacity. By the pre-World War I years, the Bear Creek Ice Company was fully formed to serve the industry until its decline in the 1920s. At Bear Creek at the No. 1 storage plant the railroad ran between two sets of ice houses each containing three rooms. A room was 49 feet wide, 98 feet long and

31 feet high. A short distance up the track, the railroad ran to the right of the No. 2 storage plant with eight rooms the same dimensions as No. 1.

At Beaupland at Dam No. 2, there was the six room house plant No. 3, each room 49 feet wide, 118 feet long and 32 feet high. At Dam No. 3 the five room ice plant No. 4 had individual room dimensions of 49 feet wide, 98 feet deep and 32 feet high.

At Meadow Run's Dam No. 4, there was no ice plant. Only rail cars were filled directly from the pond. The dam and rail line always carried the name No. 5 by the ice harvesters since it was the fifth ice-cutting facility up from Bear Creek. At Dam No. 5 the track ran between two ice plants. One plant had six rooms each 49 feet wide, 98 feet deep and 32 feet high. The other plant had five rooms each 49 feet wide, 118 feet in depth but 34 feet in height. Here the dam and plant were always termed the "No. 6 Plant." The Bear Creek Ice Company also was shipping 10,600 tons from its Moosehead plant and 8,000 tons from Penn Lake.

The ice operations at Beaupland [now called Beauplant] and Meadow Run were described by Alvin Anthony who was Lewis's railroad boss for twenty years and the company superintendent for a time in the early years of this century:

> Mr. Lewis had two forty acre lakes at Beauplant, about two miles up from Bear Creek. The Lehigh Valley Railroad owned and had built the railroad this far. [Beyond] was [Lewis's] own private railroad, and

[locomotive] engine No. 2 [named Spot] was the only engine that used this railroad. No. 2 Spot took the empties from Beauplant up to Meadow Run and brought back the loaded cars of ice to this point, and then Lehigh Valley took over for shipment. [Lewis] used smaller rails than the Lehigh Valley [and] their engines were a lot heavier than Lewis' No. 2. The grade up out of Bear Creek to White Haven was real steep and their large engines could only take four cars of ice to the top of the mountain at one time. They would leave them on a long siding up there until they had twenty cars that they could handle from this point.

The first lake at Meadow Run was 65 acres and was only used and equipped to load ice into cars in the winter time. It didn't need any power of any kind. The ice on the lake was cut with horses and ice cutting plows. [They] split [ice] into cakes 22" wide by 32" long and whatever the thickness of the ice happened to be at the time. A long shute was built of wood four feet wide with a three foot walkway on both sides and hand rails for protection. The higher upper end of the shute [or chute] extended into the overflow of the lake. The cakes

of ice were pushed into the shute and would go down of its own accord. On each side of this long shute were railroad tracks and would hold six cars on a side [for loading ice]. Three cars with four men to a car usually loaded at one time. When three cars were loaded, the men moved to three more cars on the same side. While the six cars on the other side were being loaded, No. 2 Spot would take out the [previously loaded six] cars and store them on a siding and place six empties in their place. The main shute out of the lake was high enough so that the ice would run down short shutes into the cars. When No. 2 got twelve loaded cars of ice, it would take them down to Beauplant and bring back twelve empties. Lehigh Valley and some of the other railroads as well as private companies had ice houses that had to be filled, so Mr. Lewis could sell all the ice they had for sale. At No. 1, at Bear Creek, when the rooms were all full and they had extra ice, they loaded some more cars here. They liked to have all the rooms at all the plants full because they got a better price for the ice in the summer time. I know it sold for $1.25 per ton on the scale, weighed at Bear Creek; a couple of hot days on the road in the summer meant

that the buyer took the loss.

The other lake at Meadow Run was 65 acres and had eight [?] large rooms. When the men were working any other place except at Bear Creek, Mr. Lewis had his own [railroad] coach and No. 2 hauled the men back and forth to work.

Ice cutting usually started about December 1st, or when they had eight inches of clear ice. They loaded cars at No. 1 first for Lehigh Valley to fill their store house. When ice cutting started, it was a round the clock operation because the weather was below freezing and if the operation stopped for any length of time, everything would freeze fast and you couldn't get started up again. I worked one winter when it stayed around 22 degrees below zero for two or more weeks at a time. That same winter it got down to 26 degrees below zero, the coldest record at that time.

In the summer the ice was loaded out of the rooms at the different storage plants into refrigerated railroad cars which had double [insulated] walls and tight doors to keep the ice from melting. Each car held about 60,000 [lbs.] of ice and was sold a car or more at a

> time to an individual or company that had permission from the railroad to leave the car standing on a siding [in cities] while the ice was being sold to the people, a little piece at a time for their ice boxes. I recall one hot day about July 1st, they shipped 51 cars of ice in one day and that was a [summer] record.

By late 1911 Albert Lewis also owned the Mountain Spring Water Ice Company and was cutting ice at Penn Lake and shipping it on both the Lehigh Valley and Central of New Jersey railroads. The Mountain Spring Water Ice Company was incorporated in Delaware on May 26, 1902, with $160,000.00 in capital stock. With the exception of Treasurer S.S. Staples from White Haven, its President Geo. W. Koons and other officers and directors were from Philadelphia. The company planned a natural ice industry at Penn Lake, but it was not destined to become a substantial business. For a time the Philadelphia based company had a lease or other contractual arrangement with Albert Lewis for ice harvesting at Penn Lake, and Lewis, too, owned the land surrounding the lake. In February 1909 a substantial dispute broke out, which ended in a lawsuit and was settled when Lewis bought out his opponent--the usual manner by which Lewis settled the rare litigation against him:

> A pond located on Wright's Creek, about four miles from White Haven, has been the scene of some stirring scenes during the past few days. There is a large quantity of

good ice on the pond and there is a dispute over its ownership between the Albert Lewis Ice Co. of Bear Creek and the Mountain Spring Water Ice Co. of White Haven, each company claiming the land surrounding it.

A few nights since, the Albert Lewis Company built a watchman's shanty on the edge of the pond and installed a watchman in it, armed with a gun. They also put up several "no trespass" signs.

Wednesday night a large number of men, presumably adherents of the White Haven company, visited the pond, destroyed the trespass signs, tore down the shanty and chased the watchman away. On Thursday then there came a report to White Haven that the Lewis people were organizing a large force of armed men, together with a number of experienced ice cutters with teams, etc., to go to the pond and harvest the ice.

S.S. Staples, of the White Haven company, thereupon organized a body of men, all of them by a curious coincidence being members of the Jr. O.U.A.M. of that place, and sent them to the lake

> under arms, with instructions to hold off anyone else who might try to obtain possession.
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> This force was re-enforced yesterday by about eight ice cutters, with teams, etc. who went to the lake with the avowed intention of harvesting the crop for the White Haven company and the other body of this arrangement still remains on guard.
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> Mr. Lewis, when communicated with yesterday, denied that he had any intention of sending a body of men to take forceful possession of the pond and said that the steps to be taken were then under consideration. In the meantime the White Haven people are sawing considerable and cutting ice.

On March 9, 1911, Albert Lewis and Arthur L. Stull purchased eighty per cent of the Mountain Spring company stock and assumed $18,000.00 in judgment debts against the company. Now controlled by Bear Creek and New Jersey interests, the lake would be leased, for a time, to the N. Drake Company of New Jersey to supplement Drake's ice requirements. Drake was Albert Lewis's most steady customer over the years for Bear Creek ice apart from the Lehigh Valley Railroad. At Penn Lake the Lewis firm built a new two room ice plant. One room was 120 feet wide and 75 feet deep, with an adjoining

room 50 feet wide and 75 feet deep. The two rooms were only twenty feet high. On November 1, 1911, a second two room storage plant was completed with each room 45 feet wide, 100 feet long, and 32 feet high. These plants had a total capacity of 11,000 tons although the company actually shipped only 8,000 tons of ice. The capital investment totaled $31,000.00: a railroad to the lake at $15,800.00, loading plants at $4,000.00, a telephone and power line at $2,400.00, and other buildings at $8,700.00. In 1914 the company income was less than $1,500.00 with expenses of $2,200.00. On August 15, 1915, a torrential cloudburst destroyed the plant at Penn Lake and the plant operations closed. In October 1917 the plants were dismantled and the lumber reused at Bear Creek.

At Moosehead outside White Haven Lewis also controlled a four room ice plant at Cranberry Pond. Two rooms were each 66 feet wide, 100 feet deep and 32 feet high. The other two rooms each had the same depth and height but were only thirty-three feet wide. This 12,000 ton capacity plant was also leased to Nathanial Drake of Newark, New Jersey, to ship ice to Jersey City.

Lewis was also very active cutting timber and ice at Mountain Springs near Ricketts Glen in the early years of the century. The Albert Lewis Lumber and Manufacturing Company reorganized as Lewis and Stull in 1907. Arthur L. Stull now had a one-quarter interest in the Lewis and Stull partnership which lumbered at Harveys Lake and along Bowman's Creek and harvested ice at Mountain Springs. In 1906 a fire destroyed the lumber mill at Stull but timber would still be milled at the Alderson mill at the Lake until

1912. The Alderson mill was probably razed about 1916 when Lewis sold the mill property to Arthur Stull. Over the years Lewis and Stull earned nearly $2.0 million dollars lumbering along Bowman's Creek and at the Lake. Now, as with Bear Creek in the early 1890s, lumbering elsewhere in the county was ending. The ice industry now predominated along Bowman's Creek. At Mountain Springs Dam No. 1 the older ice plant had a rough capacity of 30,000 tons, and at the newer seven room ice plant at Dam No. 2 (now Mount Springs Lake) the capacity was 32,500 tons.

But in a few years an aging Lewis, in his early seventies, was consolidating his business largely at Bear Creek. Mountain Springs was sold to Arthur L. Stull in December 1912. The Mountain Springs ice plants were valued at $90,000.00. With supplemental real estate and other investments of the company, total assets were valued at $104,600.00. Lewis received $11,000 in credits from company real estate he elected to retain. Stull purchased Mountain Springs for $93,600.00, with $15,000.00 cash down, and $10,000.00 payable annually at 5 per cent interest. Lewis retained an interest in certain Harvey's Lake property and in the Harveys Lake Supply Store at Alderson. On March 25, 1913, Lewis also ended the formal partnership created in 1895 for the Bear Creek Ice Company. Now he was the sole shareholder of record for the company.

Lewis and Stull also had an unwritten agreement not to intrude into each other's territory. Stull would sell ice to points on the Lehigh Valley Railroad system along the upper Susquehanna River from Coxton (at Pittston) to Towanda. Lewis would

sell ice eastward to New Jersey and the New York City market. If either party had a shortage to meet demand, they also wholesaled to each other. This arrangement lasted beyond Lewis's death until the early 1930s. The uncle Albert Lewis and nephew Arthur L. Stull bore a resemblance to each other and always remained close, and Stull may have been Lewis's closest business advisor until Lewis's death. Otherwise, Lewis largely maintained his own counsel in his affairs despite a network of lifelong business associates who held Lewis in great regard.

The natural ice industry was at its height in the early years of this century. A major competitor of Lewis was the Mountain Ice Company. In 1902 it consolidated many of the Pocono area ice production companies at Gouldsboro, Tobyhanna, Pocono Summit and Pocono Lake. It also had New Jersey plants at Lake Hopatcong and Greenwood Lake. Its Pocono plants had a 540,000 ton capacity, and total company-wide capacity reached 800,000 tons. The only other larger natural ice company in the United States was the American Ice Company of New York City which cut ice on the Hudson River and on lakes in Maine.

Elsewhere in the region there were other ice companies and plants, for example, the Pocono Pines Ice Company at Lake Naomi; Harvey and Drake at Saylorsburg; the Portland Company at Portland and Chestnut Ridge (near Lehigh Gap); the Mountain Spring Ice Company at Reeders (near Stroudsburg); and the Tobyhanna Creek Ice Company at Warnertown. The Lynchwood Lake Ice Company had two plants at Tobyhanna.

In 1913 Albert Lewis sold nearly 4,000 acres of land in Coolbaugh and Tobyhanna Townships in Monroe County to Bernard Brady of New York City. Several members of the Brady family controlled the Consumers Coal and Ice Company in Bayonne, New Jersey, which developed Brady's Lake for ice-harvesting. At the lake they built the famous Irish Castle, a large concrete structure in the shape of a castle, for the ice workers. In 1942 Brady's Lake and the surrounding acreage was sold by the Bradys to the Pennsylvania Game Commission.

In the period of 1904 to 1911 the Bear Creek Ice Company harvested on average of 23,342 tons of "water ice" in mid-winter for direct shipment by rail. During the balance of the year, "house ice" shipped from storage by rail averaged 71,743 tons. But the 1910-11 winter harvest of water ice was unusually low at 13,700 tons, ten to fifteen thousand tons less than the earlier years. In better years about 35,000 tons of "water ice" was considered very good. With the expansion of the plants completed by 1912, total storage capacity was 139,500 tons, but the company generally planned on sales of seventy-five per cent of capacity or roughly 100,000 tons from March to December.

Lewis had an office at the Hollenback Exchange Building at the foot of the Market Street Bridge (the site is now a parking lot) in the late 1890s. Here many of the city's elite business interests were located. But the ice and lumber business was basically headquartered at Bear Creek. In the late 1880s T.F. Lawless "managed the books" for Lewis. Augustus Garis, an ice foreman, succeeded Lawless in 1892, followed by Peter Bush in 1897. Bush left the

Bear Creek company in the mid-1910s to serve as superintendent of the Wilkes-Barre and Hazleton Ice Company and W.J. Costello succeeded Bush at Bear Creek. "Bert" Lewis, the older son of Albert Lewis, was learning the ice business under Costello when Bert tragically died in September 1916. W.J. Costello was followed in succession by C.F. Hoffman, and then by Alvin Anthony who, like Bush, had worked for Lewis and Stull in the Harveys Lake lumber and ice business. Anthony was superintendent until the fall of 1919 when he relocated to Wilkes-Barre. During the 1920s Hoffman returned to manage the company for Dick Lewis.

[The Winter Harvests 1915-1924]

Bear Creek was a company town fully controlled by the ice company. The ice business required large numbers of temporary laborers during the winter harvest. Otherwise, the industry required fewer men during the balance of the year to unload the ice from the plants into the railroad cars. The 1880s to the 1910s coincided with substantial immigration to the United States of people from the Ukraine and southern and eastern Europe. Employment agencies in New York provided new immigrants with employment in the ice fields and coal mines of northeastern Pennsylvania. In the late 1880s--early 1890s Lewis hired large numbers of immigrants to build the Bowman's Creek Branch of the Lehigh Valley Railroad, and many remained to work at Ricketts and other lumber towns. The Bear Creek Ice Company paid a fee to labor agencies in New York to send immigrants to Lewis's White Haven and Bear Creek industries at a day rate of $4.50, the men

having their train fare of $6.00 deducted from their pay. The men also paid a $1.05 daily fee to board in shanties or at the Hungarian Village, which were two boarding houses at Bear Creek. Whatever the true ethnic origin of the men, they were simply called "Hungarians." In 1915 the January work force reached a rather high number of 436 men, but during a February thaw only 146 were employed. During the balance of the year 120-150 men were employed in roughly equal numbers between Americans and foreign-born. In 1915 laborers earned sixteen to twenty cents an hour; foremen earned twenty-seven cents an hour. All worked ten hour days. In 1918 the company only employed 100-120 men in January and February, and averaged about sixty men in the other months to load cars. These numbers reflected the unavailability of laborers during World War I and limitations on immigrant labor.

The men dressed in whatever clothes they chose. Most men wore rubber arctic boots with triangular-shaped heel plates, tipped with metal points, like a cleat to avoid slippage on the ice. Frostbite was uncommon as men working on the ice and around the ice plant itself were active. Men slowly tugging rafts or floats through the channel to the water box, however, had the colder work, especially if the wind was driving and holding back the rafts from moving. The easiest work was probably in the "head house," an inside job where the conveyor was controlled. The switchers' work inside railroad cars while loading ice cars was cramped and difficult.

Ice ten inches thick could be cut, but thirteen to fourteen inches was preferred, and in later years twelve inches was generally the desired thickness to

meet a growing uniform standard in domestic ice boxes. An ice auger was used to drill test holes. Ice thickness was measured with a gauge dropped through the test hole. The gauge had a hook at the end which would catch on the lip of the ice at the bottom of the hole. Harvesting was best when the temperature was twenty-five to thirty-five degrees. From fifteen degrees to temperatures below zero, the ice was brittle and chipped or broke easily. To limit brittle ice in extremely cold weather, snow was left to accumulate on the ice to raise the temperature of the ice before the snow was cleared off of the pond's surface. A covering of snow could also keep the ice from freezing thicker than desirable.

The ice along the shore had to bear the weight of the work animals, men, and equipment to reach the solid ice of the lake. Lewis maintained a supply of horses for farm and ice work at Bear Creek. At Mountain Springs mules supplemented horses to harvest ice. If the ice cover along the shore was too thin to support the animals a plank bridge to the thick ice beyond the shore was built. If it rained on the ice field, a layer of cold water could develop between the solid ice and an icy surface crust. Holes would be poked through the ice to drain the water to the surface or beneath the ice and the surface layer would freeze solid for cutting.

Snow and slush on the ice pond had to be cleared. A team of horses pulled a large scoop which scraped and cleared a pond's surface. One man guided the horse with reins while a second man handled the scoop. Horses were mostly used at Bear Creek; mules were common at other regional ice lakes. The snow and slush would be pulled over to the shore

where it was piled along in a row until a ramp of snow was made. The horses could then haul their scoops over the ramp and dump their loads along the shore on the far side of the lake. Late season snows were piled on to the railroad track by the plants after the initial carloads of ice were shipped out. By spring the snow had melted and railroad cars could be taken to the plants to unload the ice.

Next, a channel of water had to be cleared between the water box at Plant No. 1 down towards the dam. But this ice field could not be cut too near the dam. The water flow under the ice to the dam breast created thin ice near the dam. Once a channel of water was cut to drive ice floats to the plant, ice harvesting for Plant No. 1 was possible. When ice from the first field was cut, a second ice field could be prepared for Plant No. 2. A channel was cut from the No. 2 water-box to the end of the field cut for Plant No. 1. Once this second field was cut, another field could be cut from No. 2 towards the back of the pond. But ice was not cut near the back of the lake due to stumps and grass in the shallow water. (Every few years the company drained Bear Creek lake and removed the grass. If the lake bed was left to dry out, large clumps of the grass could be easily pulled out.)

Once a channel of open water to a plant was cleared, actual work on the ice field could begin. An initial, long straight line had to be cut on the frozen surface using a plank board as a sighting line, although in later years a standard carpenter's blue chalkline was adopted. The initial line was cut with a small saw (about eighteen inches long) with a long-handle attached to it. A man pushed the small saw

alongside the plank to scratch the initial line a hundred feet or more along the ice. Then a horse-drawn marking saw was set into the end point of line. This saw had a series of teeth which cut into the ice about three inches deep along the line. It had a metal tipped arm which was extended ninety degrees away from it and as the marking saw cut along the initial line the extended arm scratched a parallel 32 inch line along the ice's surface. At the end of the course the marking plow was then turned around and its teeth were set into the end of the previously scored parallel line. The saw was drawn in the reverse direction along the new line and cut it three inches deep, while its arm also drew another 32 inch parallel line. The process continued until there were a series of 32 inch wide parallel rows cut three inches deep. The marking plow, or a second one in use, could similarly mark out and cut the field cross-ways but at 22 inch intervals. The ice field eventually had a checkerboard like pattern of lines and crosslines cut three inches deep in 32 x 22 inch patches.

As the marking plow was doing its work, another team of horses pulled an "ice plow" similar to but larger than the marking plow. The ice plow had a series of larger teeth from six to ten inches long (front to back) in size. This plow, like the marking plow, had a man to guide the horse by the head and a second man handled the plow. This plow was fitted into the cuts made by the marking plow. It passed through the earlier cuts a couple of times deepening the cuts from three inches to eight to ten inches depending on the thickness of the ice. But the horse-drawn plows did not completely cut the ice free. Large rectangular sections of the ice containing perhaps fifty pre-scored cakes were cut free with handsaws by the workmen

and the large freed sections of ice were floated in open water to the water-box near an ice plant. Here the floats of ice were chopped apart into strips of ice and finally into individual cakes of ice which were a uniform size of 32 x 22 inches. Cakes were 8 to 18 inches thick, sometimes thicker depending on the severity of the winter.

In the World War I era, the horse-drawn ice plow was replaced by the gasoline-powered rotary ice plow. The rotary ice plow lessened the work of the earlier marking saw and ice plow. The initial line on the ice was still sighted by a long board or chalk line and scored by a workman who pushed the usual long-handled small marking saw along it. The rotary saw also had an extended arm or guide which could be set away from it at 32 inches. The end of the arm fit into the initial scored line. As the rotary saw was pulled over the ice the extended bar set into the initial scored line guided the rotary saw in a straight path as the saw cut a parallel line several inches deep along the ice 32 inches away from the extended guide arm. After a line was cut along the ice a few hundred feet, the rotary saw was turned around and an extended bar dropped into the end of the prior cut. The rotary saw was now pulled in the reverse direction to cut another line 32 inches away from the earlier cut. The large round circular saw could be adjusted as to the depth it sawed, and it needed only one pass over the ice to cut to the desired depth, for example, eight inches for twelve-inch ice. Once a field of parallel lines 32 inches apart was cut, the arm was adjusted to 22 inches and the field cross-cut with a series of lines 22 inches apart. Or, a second circular plow was used for the cross-cuts to speed cutting the field. As with the horse-drawn plows, the ice field was cut in

a 32 x 22 inch pattern to within the last few inches of the depth of the ice.

The men could bar off a "float" of pre-scored cakes, ten cakes wide and up to twenty cakes long using a gasoline-powered jig-saw device. The float was split in half by men using a double-pronged iron bar creating a float five cakes wide by no more than twenty cakes long (100 cakes). The floats were poled by the men towards the water box. Here, from the floats men would use an ice bar to chop off separate strips containing five cakes, then individual cakes were spiked off from each strip with a needle bar, and the cakes were swept up by the conveyor chain on to the ice plant conveyer for loading into railroad cars or the ice houses.

Loose snow was tamped into the outer edges of the floats where the scored lines met the open water to prevent the cold water from washing into the scorings and refreezing the sawn lines of the float. In colder weather men were also employed at night to push a float up and down the water channel to the water box to prevent the channel from freezing.

Although individual ice cakes were a uniform 32 by 22 inches (larger than the years of the 1890s) their thickness varied according to ice conditions on the lake. In early years typical thickness was fourteen to sixteen inches. Ten to twelve-inch ice occurred in a warm winter but was considered poor ice; seventeen to eighteen inch ice could occur in severe winters, but it was very heavy and undesirable. In later years twelve inch ice was the standard and the cakes were planed down to this thickness. Once the ice cakes were separated, they were carried up into

the conveyor and the cakes passed under an overhead planing mill which was a series of graduated knives which planed or scraped off the top of each cake to a uniform thickness. The cakes then passed under a heavy bristled brush which slightly scored or corrugated the top of the ice cakes which helped prevent their sticking together while in storage. There was a considerable amount of slush ice on the cakes from the planing and brushing process. Slush fell into a water-driven channel to the ground below. Men continually worked to clear away the tons of waste into a field below (the "snipe pile").

The conveyor was powered by old belt-driven sawmill engines which burned coal in boilers. A flywheel and pulley arrangement connected the engines to the conveyor system. In the head house, forty feet above the boiler and engine room, the gallery operator engaged the conveyor with a simple clutch lever. There was one man on the conveyor for each room to be filled in the ice plant. Each man was responsible to push the ice cakes from the conveyor down a wooden chute into his assigned room in the icehouse or into a rail car on the opposite side of the conveyor track. At the end of the conveyor, any broken or unusable cakes passed up by men fell to the ground. Broken cakes or cakes with broken corners could not be sold. Broken corners on ice cakes also acted as treacherous holes for the men who layered the ice in the plant rooms.

The ice cakes on the conveyor (also called gallery) ran down wooden chutes to the open ice house doors. Each chute pitched downward from the gallery to the ice house room. To slow the cakes' descent down the chutes, an extra board could be

placed into the chute. Nails were driven partly through the extra board and the nail heads were bent over. The series of bent nail heads, called scratchers, caught the bottom of ice cakes and slowed their speed down the chute.

The initial ice harvest was used to fill railroad cars, usually a massive order for the Lehigh Valley Railroad. Usually, four to six cars were filled at a time. A workman was on the conveyor to drop ice cakes down a chute to a switcher man inside the car who hooked the cakes over to other workmen who layered the ice inside the car. This was difficult and cramped work. When the car orders were filled, attention was turned to fill the ice plants.

In the beginning of the season, the conveyor or gallery, which was manually raised and lowered by winches, was at its lowest level near the bottom of the ice house. Usually, each of the ice plant rooms were filled daily to uniform levels during the ice harvest. The conveyor was winched upward as the rooms in a plant were filled with ice during the season.

Inside each room were two men called switchers who alternated in catching the ice cakes with switching hooks as the cakes fell down the chute and entered the room. Each switcher worked to fill his half-side of the room. He grabbed a corner of an ice cake with his hook and shot the cake behind him by swinging it around to his side of the room to another worker. Each switcher worked with two other men called placers and one man called a spacer who lined up the cakes inside the room until a full level of ice or floor was completed. An extra man

junked broken cakes out a rear door. The rooms were filled from the rear forward to the front. The ice cakes were lined up in parallel rows from back to front with four inches of space between them to prevent their freezing into a solid mass. A total of nine men worked inside each room.

The men alternated the placement of the first row of cakes against the rear wall (the 32 inch side against the wall; the 22 side against the wall for the next floor of ice). All other cakes in each floor were uniformly laid with the 22 inch side running from the rear to the front of the room. But each floor of ice overlapped the floor above and below it by ten inches due to the alternating placement of the rear row. This system, too, prevented the room of ice from freezing into a solid mass.

This process during the winter harvest continued until all the rooms were filled. The filled ice house was topped with six inches of hay to insulate the ice. The outside walls in the plant had twelve inch hollow walls filled with sawdust which served as insulation to limit meltage. Interior walls were also hollow. In earlier years the interior walls may have been also insulated with saw dust, but not in later years.

From March to late in the year a reduced work force was employed to unload the ice houses and to fill railroad cars for shipment to the company's eastern Pennsylvania, New Jersey and New York customers. The Lehigh Valley Railroad supplied 60,000 pound railroad cars with a single sliding door on each side of the rail car, or 80,000 pound rail cars with double doors which swung outward. These were usually

older rail cars which formerly shipped fruit, vegetables and milk. Of wood construction they had hollow exterior walls filled with sawdust as insulation, and to keep the ice cakes from melting during shipment they had small bunkers on the top of the car filled with broken ice which evaporated to cool the cars. But Lewis's summer work force also helped with road building, plant reconstruction, farming, and other tasks around the Lewis grounds.

In 1915-16 Lewis largely permitted "Bert" Lewis, his older son, to manage the ice business under the tutelage of company superintendent W.J. Costello. At the beginning of the season in early January 1916 Albert Lewis was vacationing in Bermuda. The 1916 year was the warmest in over forty years. The following are excerpts from letters during 1916. In this year the company was converting from the horse-drawn plow to the gasoline-powered circular plow to cut floats:

January 1, 1916

Dear Dad:

The ice at Bear Creek is 10 inches thick, and 8 inches at Meadow Run. We have scooped enough snow off at Bear Creek to start No. 2 on Monday morning. Temperature is 36 with fog and rain. We loaded 175 cars this week and would have loaded more but did not have the cars. The Valley have brought in a lot of cars and we will be in good shape for next week.

The Bear Creek Ice Co. are the only people who have cut any ice so far this winter. There is 3 ft. of snow on the ice at Lake Hopatcong, and they are in very bad shape.

Bert

January 6, 1916

Dear Dad:

I did not have time to write you yesterday, was at Meadow Run all day. Loaded 42 cars yesterday at Meadow Run and put 2000 tons in No. 2 plant. The day before we loaded 41 cars at Meadow Run and put 1800 tons in No. 2 plant, (Bear Creek).

Temperature around 30 for the last three days. This morning it is colder. We have been short of men but they are coming in now. They are not cutting ice on the Poconos yet. We shipped two cars of ice to Wilmington, Delaware, for 50 cents per net ton.

We are starting Beaupland today, which will make three places we are working at. The ice is ten

inches (10") all around.

Bert

January 7, 1916

Dear Dad:

We are having colder weather, 10 above yesterday and 6 this morning. We loaded 61 cars yesterday and 4 today. Stored 1450 tons yesterday and 2200 tons today.

The Hungarians have their Christmas day [Orthodox] so that we only loaded with the Americans.

With much love.

Bert

January 9, 1916

Dear Dad:

The day before yesterday we loaded 40 cars at Meadow Run at No. 5 plant and then went down and opened up at No. 3 plant, Beaupland. Yesterday we put in 1400 tons at Beaupland, 11 inch ice, and 1800 tons at No. 2 plant, Bear Creek. We are putting 14 inch ice in both plants today. Temperature 12, down to zero last

night.

The new ice plows are doing fine and are a great help. We have no horses on at No. 2 plant except to scoop four inches of snow.

Everything O.K. With much love.

Bert

January 23, 1916

Dear Dad:

The temperature has been up to 50 ever since Wednesday night and it looked as if the ice might melt so we worked at No. 2 Thursday night until twelve and also Friday night until twelve thirty and finished No. two. It is full to the roof. Finest kind of ice. Yesterday morning we started at No. 1 but were not able to run last night as the men were too tired as the ice ran very hard in the top of No. 2 houses the night before and they were pretty well played out. The weather changed this morning and it is getting colder right along. It is twenty two tonight so it did not hurt the ice a bit it really helped us a lot as it melted the snow on the ice and we won't have to plane any slush at all. At Beauplant on Thursday we

put in 2500 tons, on Friday 1400 tons and yesterday 1400 tons. All 13 inch ice. The least the ice has cut to is 13 inches at No. 1, so you see we are alright. Everything is getting on in good shape. Brady has not been able to open at Hopatcong and has taken the men he has up to Ganoga Lake. Men have been very scarce all over the country this winter and all the ice plants try to get them as soon as a few cold days set in. But we had very good luck as we opened first and got a lot of old Pocono and Mountain ice men. You see the war took a lot of the Hungarians and so we have to depend on getting men from the outside. I have about 50 sleeping in the club house and the boarding house, Macks and Getzes are filled up. The Lehigh Valley, that is Mr. Loughran, sent me in nine bunk cars and we sleep some men in them. It looks as if the ice crop is going to be very short all over and we are getting it in as fast as we can. We filled car orders and No. two in record time. You see when we get through here the men will all leave for the Pocono and Hopatcong as they are paying big wages for the few men they have, Brady is paying $2.25 for ten hours all around. We are paying $1.85 and Two dollars for cars only. The same as always.

We have been very lucky in getting them as the railroad is short of men also. So the Valley tells me. The ammunition factories at Bethlehem are employing twenty five thousand men and paying big wages. In three more weeks we ought to be pretty well along. With good luck. The ice at Meadow Run No. 6 is very clear and we will go up there on Wednesday as I think tomorrow and next day will pretty well finish up the first crop at Beaupland. Then both plants at Beaupland will have been cut off once. About a week of second crop ice ought to fill them.

Much love to you all.

Bert

February 5, 1916

Dear Sir:

The New York Herald reports the warmest at this time of the year in 45 years. On Wednesday, February 1st, it snowed about eight inches, Thursday and Friday it was very cold, the highest temperature was 18 at noon, and dropping to zero at night. These two cold nights have helped us very much. It made the ice at Bear Creek strong enough to hold horses. We put them on

scooping snow and expect to resume at No. 1 Monday. The ice at Bear Creek is from six to ten inches.

The ice on upper Meadow Run pool was too thin, had a great many air holes and unsafe for horses so we had the men cut holes every 25 ft. apart and flooded the ice and soaked the snow. This will let it freeze very rapidly.

We have No. 2 plant completed, and made a record run filling it in 17 days. In former years it took from 22 to 24 days. Putting in the heavy chain reduced the number of stops and the light chain worked O.K. at the car loading dock at Meadow Run.

The following is a report of the storage to date:

#1 Bear Creek	7,560 tons
#2 Bear Creek	34,490 tons
#3 Beaupland	11,800 tons
#4 Beaupland	9,950 tons
#6 Meadow Run	2,600 tons

TOTAL 68,400 tons

W.J. Costello

February 29, 1916

Dear Sir:

We completed No. 1 plant on Friday and loaded 58 cars there on Saturday. We have plants No. 1, 2, 3, and 4 completed and resumed storing at plant No. 6, Meadow Run, yesterday, at eleven o'clock and running in 1450 tons of 11 inch ice. The ice at Meadow Run this year is of the finest quality. We have about one week's run at Meadow Run. We expect to start the lower plant at Meadow Run tomorrow and load cars. We have orders for 150 cars yet.

We are loading and shipping eleven inch ice from the Lehigh at White Haven and have the C.R.R. of N.J. order of 950 tons about completed - also the Ashley Ice Co. order will be completed by Saturday. We have an order from Dorsey at Perth Amboy for 2500 tons.

Have not written for a few days on account of running our crews day and night.

W.J. Costello

March 2, 1916

Dear Dad:

We put in 2500 tons of 13 inch ice at Meadow Run on Tuesday, yesterday 2700 tons and today 2700 tons, 14 inch ice. We also loaded 20 cars with a small crew at No. 5 plant yesterday and 21 cars today, 12 inch ice.

We loaded 85 cars at White Haven up to and including last night and have orders enough for two weeks if the ice holds out. It snowed last night and there is a lot of slush to take care of at No. 6 plant, at some places we must plane off six to seven inches.

Bert

Newport

July 20, 1916

My Dearest Bert:

I think you have got along splendidly, but do not kill yourself or worry about anything. This has been the hardest year... for the last forty years. Do not let your customers worry you to death.

Drake would do everything in the world to get every car you

shipped. He cannot, or any of your customers in this hot weather, get all the ice they can sell.

I think you would be perfectly justified in raising your price $1.00 per ton.

I think W. Costello is going to get married. I do not think it right for him or any of the foremen in the heart of the season to get married when you need them most. I think he, Al Bond and the rest of them ought to do everything they can for you at this time. But don't worry, whatever you do I'll be all right with you.

Get all the ice you can from Art [Stull], and have it turned into my account... You have had the hardest time there has been in forty years. If you have to pay more wages, raise the price of your ice.

Yours in haste
Daddy

Roughly two-thirds of the business was ice shipped from the storage plants, and only one-third from the mid-winter ice harvest. For example, in the ice season of December 1917 - mid March 1918, the company sent 27,390 tons directly from the ponds.

For the balance of the year 67,537 tons were sent from storage by rail cars. This ratio was typical in the company's most productive years. Usually, demand for stored ice was low in March, but would rise by May, with substantial rail shipments during the heaviest demand months of July and August. By October, with cooler weather, demand would drop. Sometimes by November the company ran out of quality ice and Stull sent ice from Mountain Springs to cover Bear Creek's customers. By December remaining ice in storage could be partly bowed on the ends from melting or of questionable quality and wholesale purchasers could complain about shipments of it. But the normal winter harvest was only a couple of weeks away.

The average daily wage in 1918 was $2.75 to $4.00 for laborers; $3.00 for watchmen; $3.10 for firemen; $3.25 for teamsters; and $4.00 for foremen and carpenters. Usually, the firm employed two clerks at $50 weekly, and during the ice cutting season a temporary female clerk was hired.

About fifteen men were considered full-time, annual employees. These included A.F. Bond, John Blakeslee, Sr., Albert Calkins, Charles Hawk, Albert Kresge, Oscar Mack, Clarence Mack, F.J. Thompson, Enoch Smith, and John Rodock. In 1922 their annual wages were $1,300 to $1,500 each. Bond was the foreman of the workmen who filled the ice houses in the winter and unloaded the houses the balance of the year. Blakeslee, and a son John Blakeslee, Jr., worked full-time with company horse teams on road building and ice-cutting. Calkins operated the power house. Hawk supervised the outside ice crews during the harvests, and managed other work crews the

balance of the year. Mack was the blacksmith, and Smith managed the old Searfoss farm, and Rodock cared for Lewis's private driving horses. Thompson was the general superintendent through the early and mid-1920s.

Other regular employees at Bear Creek were Walter Blakeslee, Lewis's chauffeur; Charles Dieter, carpenter; Albert Kresge, a master at general maintenance; Clarence Mack, dairy farm operator; and Gertrude Flick, a former teacher at Bear Creek who served many years as a clerk in the Bear Creek ice office. During World War I she chaired the company's Liberty Loan drives during which the company men bought United States bonds to support the nation's war needs.

Charles E. Hawk (1882-1969), a native of Long Pond, moved to Bear Creek at age sixteen. He was the outside superintendent of the ice field under Lewis, and company superintendent for Bryant and Lauderbaugh and R.A. Davis when these firms harvested ice at Bear Creek. He was a school director from 1910 to 1950 for Bear Creek Township, probably the longest continuous school directorship in state history.

There is no record of Bear Creek workmen who drowned during the winter harvest by falling through the ice. However, in late January 1918 Charles Martin, age seventy-three, a workman at the ice dam at Trout Lake at Reeders, in Monroe County, drowned after the ice gave way and Martin and his horse-team fell into the freezing water.

Horse teams could fall through the ice, and

each horse had a choke rope around its neck. By pulling the choke rope an animal's wind was cut off which lessened the horses panic in the water. If an animal fell through the ice, the men first unhitched the animal from the snow or ice plow. Planks were kept on the ice for these emergencies. A plank was slid under the chest of the animal and it was pulled out by the ropes around him. The animal was covered with blankets and walked until he dried. The animals were not deterred after a fall and would resume work on the ice. If equipment fell to the bottom of the lakes, which were only fifteen to twenty feet deep, it could be retrieved, dried out, oiled and used again.

Small injuries were frequent among the workmen. In January 1916 Robert Kocher was storing ice at Bear Creek when an ice hook slipped and cut his leg. In the fall of the year, Thurston Blakeslee was hauling old lumber when a board fell on him and an old nail cut his leg. While loading ice in January 1917 Joseph Busick sustained a lacerated left eye while raising the conveyor line. In June he also had a slight eye injury when the corner of an ice block flew off during handling and the chips hit him. John Blakeslee, a sixty-one year old teamster, was kicked by a horse in May 1919. A relative, Ernest Blakeslee, was riding a horse-drawn wagon when the seat slipped and threw the nineteen year old forward and under the wagon. The team panicked and dragged Blakeslee two hundred feet and he had several head and leg bruises. Stanley Kresge had a bruised left hand which became infected in an accident with ice tongs in April 1919. In January 1920 George Kresge was cut by an ice hook loading railroad cars. In May Llewellyn Kresge had a foot injury at Meadow Run when a hook slipped from an ice cake. Two months

later an ice bar fell on his foot severing the end of a toe. Then in August Warren Blakeslee had an infected hand further bruised while loading cars. In 1924 Ami Keiper slipped and ran an ice hook through a hand when he fell to the ground. In 1926 an ice piece fell from the conveyor at the No. 1 plant and cut the head of Albert Kresge. In 1926 and again in 1929 Mike Bendus was pulling ice from the No. 1 plant when the corner of the cake pulled off and Bendus hooked himself in the leg. In 1929 Bendus also slipped on the ice and punctured a finger on an iron chute he was carrying. Maurice Kresge, a long-time employee, suffered an eye injury from a metal chip while grinding knives from an ice planer in December 1919. In March 1929 he was pulling boards from the doorway of No. 6 plant at Meadow Run with an ice hook. He lost his balance and the hook lacerated his head. In all of these instances, the men were treated either by a Wilkes-Barre physician or at the Wilkes-Barre General Hospital and they promptly returned to work.

In the 1910s the company's business income varied. An unusual year was 1911 with income of only $101,810.00 but a loss for the year of $22,826.00 as labor costs and improvements to dams and plants totaled $122,260.00. There was a high of $278,500.00 in 1913 with expenses of $214,000.00 and net income of $63,000.00. In 1914 income was $240,875.00 with expenses of $177,700.00 and net income of $63,000.00. But these were special years.

Gross income during the mid-1910s, more typical for the company, was $160,000.00 in 1915 and 1916 and $168,235.00 in 1918. These figures include a rough average of $20,000.00 annually from various farm rents and interest and dividends from

investments. Lewis had farms he leased out in Pennsylvania, New Jersey, and Maryland. The company's net income could vary from $28,300.00 in 1915 to $45,177.00, in 1916, and $17,200.00 in 1918. But these were figures for federal net income tax after deductions for depreciation. Certainly, there were high labor costs in the ice industry, and a typical year's labor costs were about $60,000.00. But depreciation for real estate and equipment reduced net income for tax purposes and depreciation averaged $20,000.00 in 1911-1914, but was a standard $4,750.00 in years immediately before the end of World War I. With the War's taxes, and a national income surtax after the War, the company maximized its depreciation strategy, and by 1919 claimed $468,000.00 in depreciable property, compared to $175,000.00 in 1915. The dams were valued at $100,000.00, the ice houses at $140,000.00, 7.5 miles of ice company railroad at $100,000.00, but, most extraordinary, the employees rent-free homes were valued at $78,000.00. In 1918 $31,000.00 in depreciation was claimed, compared to $4,750.00 in 1917. In 1921 depreciation, helped by windstorm losses at Plant No. 3 and at No. 5, was scheduled at over $40,000.00. Depreciation allowances, when no equipment or sinking fund was also set aside with company profits, would in fact provide additional annual revenue to the company. A tax audit for 1919-1921 and again a couple of years later by IRS targeted the depreciation allowances, but the questions were settled between the company and the taxing authority with little change in the depreciation schedules.

The net income or profit statements for the Bear Creek Ice Company understated the company's

true financial viability. In addition to depreciation allowances which disguised true net income for tax return purposes, the company's business expenses also included a substantial portion of the personal expenses of the Lewis household, particularly for maintenance of the Bear Creek estate. Nevertheless, the ice industry was not nearly as profitable as the lumber business in earlier decades.

After World War I the plants had losses in 1919 and 1920. In 1919 at Plant No. 1 three of the six rooms were leaning--a common problem in the ice industry--and were torn down. Two of the remaining three rooms were in poor condition. At Plant No. 3 two of its six rooms were blown down in a 1919 windstorm. In 1920 Plant No. 1 was rebuilt to its six room capacity, but No. 3 Plant at Beaupland with its remaining four rooms and conveyor were beyond repair and the plant was closed. During this period, particularly with the War's labor difficulties, tax issues, and Lewis's own declining health, Lewis nearly despaired and considered selling the ice company. Nathaniel Drake and Arthur L. Stull agreed they would purchase the Bear Creek business if Lewis was adamant, but they prevailed on Lewis to retain it.

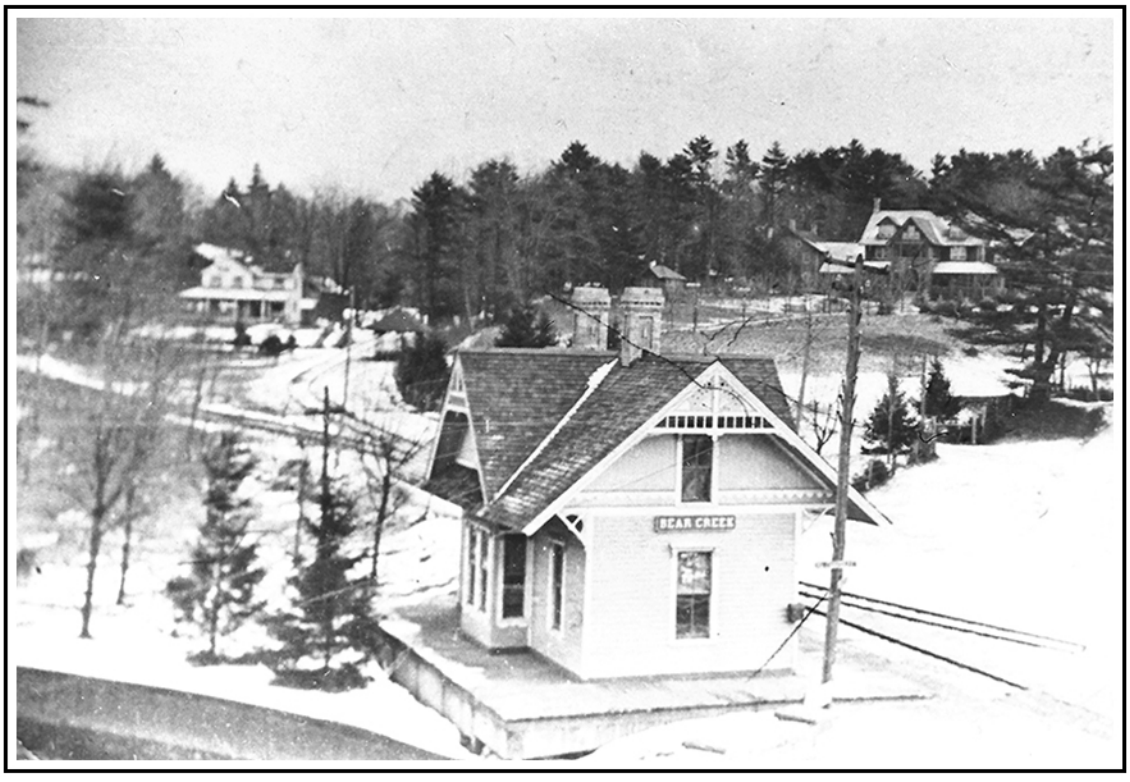
In the post-war boom the company had sales and income of $265,000.00 in 1919, but had an extraordinary labor cost of $92,000.00. The net profits of $130,000.00 may have set the company record. With the loss of Plant 3, and increasing competition from the artificial ice industry, sales declined to $160,000.00 in 1920, rose again to $222,000.00 in 1921, but dropped sharply to $126,000.00 in 1922 and $118,000.00 in 1923. Gross profit dropped to $19,000.00 in 1923, nearly

fifty per cent less than 1922.

In the early 1920s the ice company served forty customers in Pennsylvania and New Jersey with the Drake company of Jersey City the largest purchaser followed by the Lehigh Valley Railroad with its ice depots at Mahoning and Jersey City. Other large purchasers were the Clinton Ice Company in Irvington, New Jersey; the Bound Brook Ice Company in Bound Brook, New Jersey; and E.J. Dorsey and Sons, another wholesaler from Perth Amboy, New Jersey. Local customers were Armour and Company in Hazleton; Home Brewing in Sheppton; Sunnyrest Sanitorium in White Haven; Wilkes-Barre and Hazleton Ice Company in Wilkes-Barre; and Yeungling & Sons, the brewer in Pottsville. Rates to buyers, including freight, would fluctuate monthly, typically $2.75-$3.00 per ton during the winter harvest, dropping to $1.50-$2.00 in the spring and fall, rising in the summer months to $2.75-$3.00, and dropping again in the late fall to $2.00-$2.25 per ton.

But the post-war boom did not last. The company's annual shipments were generally around 100,000 tons between 1907 and 1921. There were respectable sales of nearly 70,000 tons in 1923 and 1924 but dropped to 35,000 and 58,000 tons by 1926 and 1927. The natural ice industry was fading.

Moosehead Ice Company Wagon 1900



Lehigh Valley Railroad Station-Bear Creek 1918

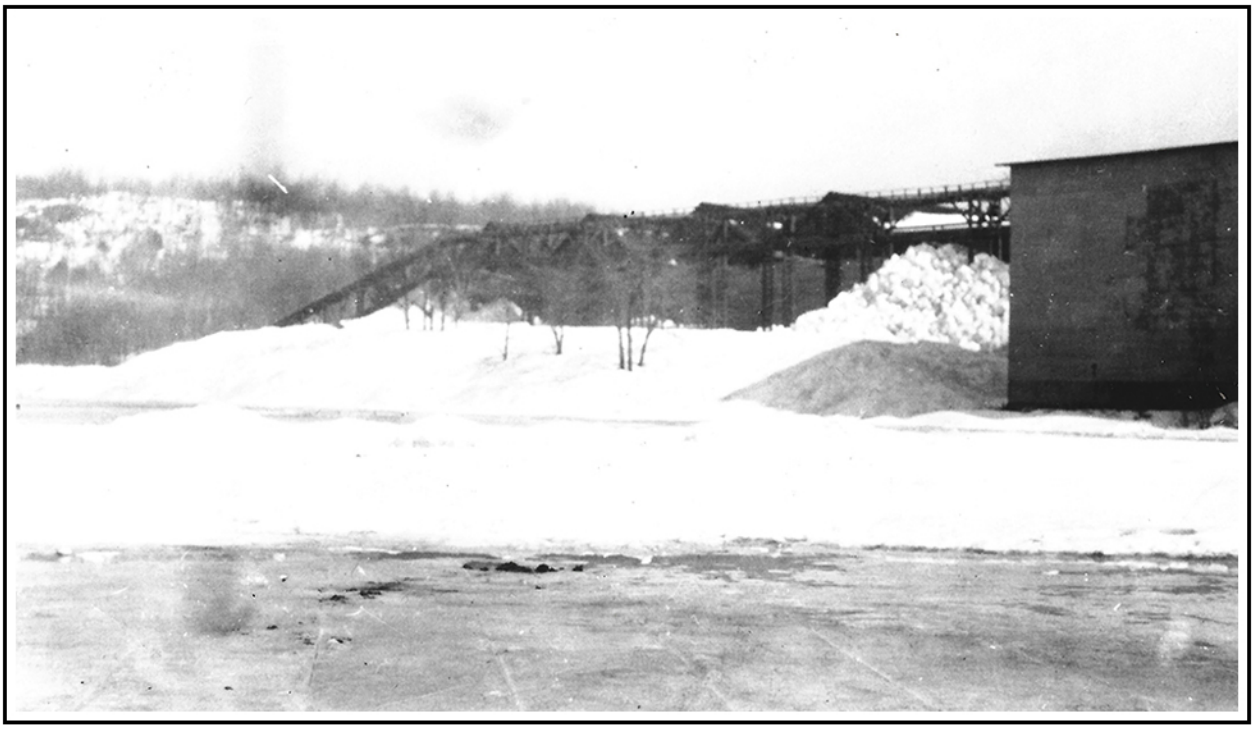
Rotary Saw at Bear Creek – Later Years

Grasshopper Saw Cutting Floats

At Waterbox Cutting Floats into Strips and Cakes

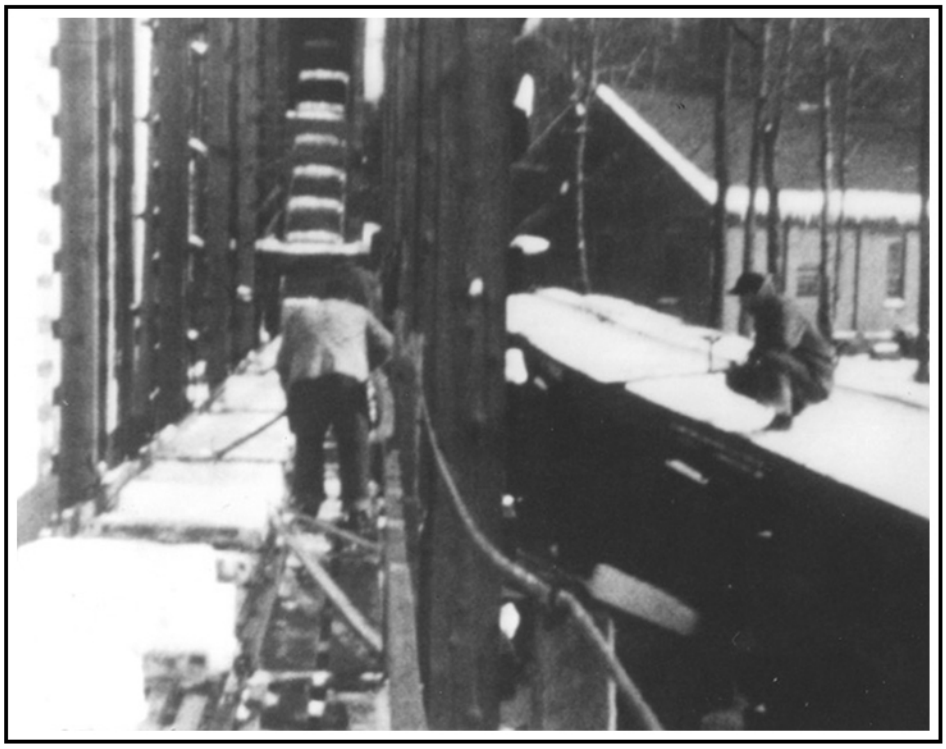
No. 1 Plant and Snipe Pile

Ice Cakes Carried up Conveyor to Ice House



Conveyor at end of Plant No. 2

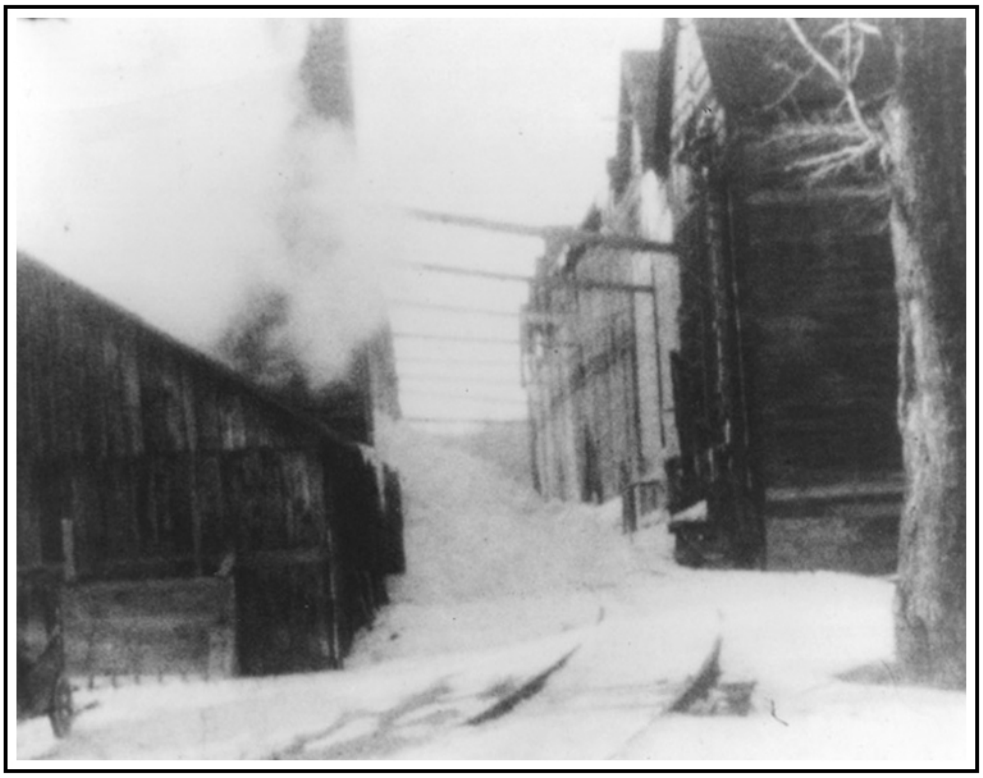
Beauplant Dam No. 2 (Plant No. 3); (Dam No. 3, Plant 4 No Photo)



Cakes Loaded from Conveyor to Railroad Cars

Meadow Run Lakes – Dam No. 4 (No Plant) and Dam No. 5 (Plant 6)

Loading Ice from No. 4 Dam on to Railroad Cars



Winter Scene at Meadow Run Plant No. 6