



*Maple Plain's water tower, erected
by a crew of itinerant "tankies" about 1940*

THEY DIDN'T JUST GROW THERE —

Building Water Towers in the Postwar Era

Dwight D. Eisenhower is president, and Elvis Presley is a rising star. A Minnesota newspaper announces that a vaccine will end the era of “polio terror.” But there is another matter to be dealt with in April 1955. There is a water tower to be built, and those who are to build it, a crew of five, gather at the small southwestern Minnesota community of Round Lake. Some have driven several hundred miles to get there. The men seek out housing, renting apartments for a month or securing a place to park the trailer homes they have towed into town. They find the grocery store, the laundromat, the jobsite. They stop at the post office and ask for mail at the general-delivery window. None bother with a telephone. The community in which they have gathered will be their home for the next few weeks—not their home away from home, but their only home. On the first school day after arriving in town, a mother enrolls her son (the author) in first grade, informing the principal that their stay will be a short one.

The foreman of the crew, A. E. “Al” Spreng, spends the morning finding local sources of welding supplies

and diesel fuel. Soon, trucks begin arriving, and the crew unloads large sheets and tubes of steel, masses of cable, rope, and hose, an air compressor, a winch, something that looks like a large Erector Set tower, and piles of unidentifiables. The unburdened trucks depart, and the men set noisily to work, rummaging through piles of tools and gear, beginning to assemble what looks like an even larger Erector Set project. If it were winter, there might be ice and snow to chip and shovel before they could begin, but in April there are, instead, spectators from the local barbershop or feed store and children who linger on their way home from school, fascinated by the chaos and pondering what is to come.

By mid-May the job is done. Round Lake’s water tower, fabricated by the Pittsburgh-Des Moines Steel Company, is typical of the water towers erected in the first half of the twentieth century. The tank, contract number 7622, is fifty thousand gallons in capacity, one hundred feet high at the water line, and riveted in construction. It cost the city of Round Lake about \$24,000, including a labor expense of less than \$3,000, an under-budget figure that earned the workers a modest bonus.²

A crew of four, each man earning \$3 an hour, and a salaried foreman earning \$155 per week erected the modest-sized tank in about a month, despite losing a few days to inclement weather. The same crew also dismantled the old water tower, built nearly sixty years earlier. One of the workers, D. H. “Hap” Mougín, suffered a minor eye injury on the job. Hap was married,

Ronald E. Spreng, an instructor on leave from Oak Hills Bible College in Bemidji, is working on a doctoral degree in history at the University of North Dakota at Grand Forks.

¹*Worthington Daily Globe*, Apr. 12, 1955, p. 1.

²Here and below, see A. E. Spreng (author’s father), interviews with author, Lake Crystal, Dec. 29–30, 1990, Dec. 31, 1991, and telephone conversations with author, Apr. 1, 1991, Jan. 12, 1992; foreman’s time book and other Spreng family papers, in author’s possession; construction department records, Pittsburgh-Des Moines Steel Company, in author’s possession; *Worthington Daily Globe*, Apr. 12, 1955, p. 1. Spreng worked for Pittsburgh-Des Moines (PDM) Steel Company from 1946 until his retirement in 1980. He became a foreman in 1952 and worked on 284 water towers or similar structures during his career.

RONALD E. SPRENG



A building crew (from left): D. H. "Hap" Mougins, Foreman S. O. "Shorty" Gidlow, Alton "Jim" Heer, Billy Higgins, A. E. "Al" Spreng, about 1950

and his wife, Mary, accompanied him to Round Lake. The Mougins and two other workers, C. A. Wright and W. T. Rafferty, both single, lived there in rented housing, while N. O. Boals and Al Spreng, both married, had pulled house trailers to the jobsite. Spreng's child was the only one with the crew.

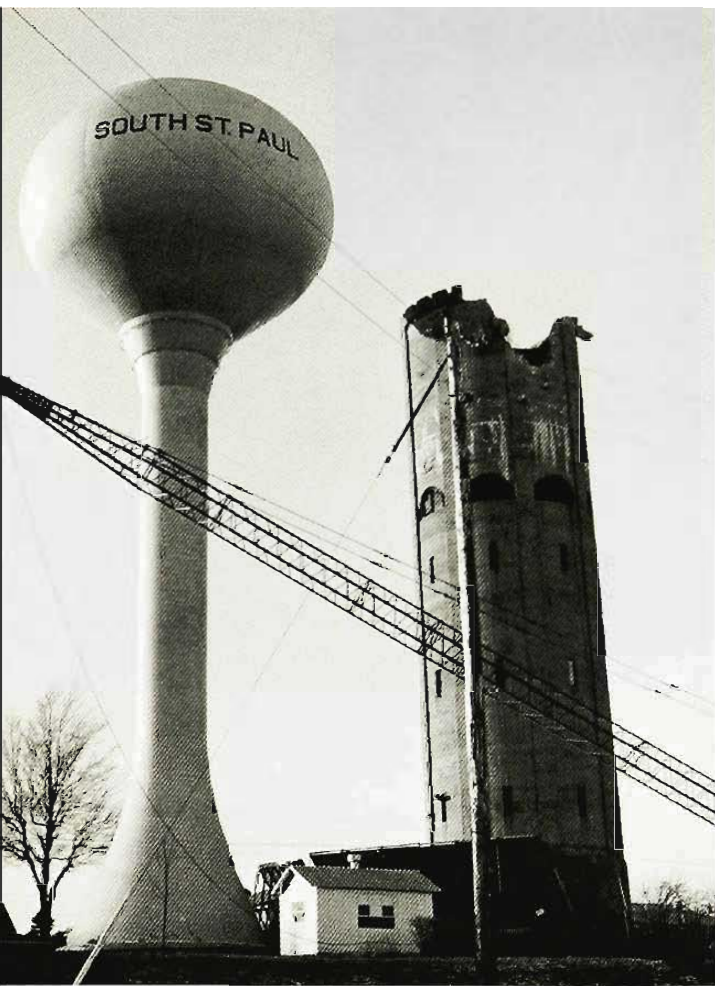
The job completed, it is time for the workers and their families to move on. The foreman tells his crew the location of the next job: Tyler, Minnesota. The Spreng first-grader is checked out of school, the trailers are hitched up, the post office is visited one last time, and the nomadic tribe is off, beginning again a cycle they will repeat ten times in ten months, a cycle that will take them from Minnesota to Texas.

THIS WAS THE LIFE led by the crews and families that formed the backbone of the water-tower-building industry during the boom years of 1946 to 1980, when thousands of towers were erected throughout the Midwest. Two companies, the Chicago Bridge and Iron Company (now CBI, Inc.) and the Pittsburgh-Des Moines Steel Company (now PDM, Inc.), dominated the business in this era. A review of the companies'

payroll records, market shares, and annual reports suggests that during these postwar decades they erected between eight and eleven thousand water towers in the region bounded by the Mississippi River and the Continental Divide. Their combined work forces totaled about one thousand workers.³

It is not surprising that this building boom began

³William R. Jackson, Sr., to author, Oct. 24, 1990; M. J. Hillman, construction manager of PDM's central division, 1946-72, telephone conversation with author, Feb. 22, 1991. Jackson, chairman emeritus of PDM, stated that PDM and CBI had equal market shares, varying from 35 to 45 percent, from 1946 until 1980. The remaining portion of the market was split between several companies, one of the most significant being Universal Tank and Iron Works of Indianapolis. In the 1970s Universal, a nonunion company, cut deeply into PDM's market share, especially of small tanks; in response, PDM spun off a nonunion subsidiary, PDM Hydrostorage, enabling it to regain lost ground. PDM and CBI are large corporations, and water towers are a small part of their operations. PDM erected the Gateway Arch in St. Louis in 1965. The precise number of water towers erected is difficult to ascertain. Crews worked on other types of storage tanks and vessels, but company records rarely made any distinction among them.



New tank and ruins of the old, South St. Paul, 1960

years, as the boilermakers union won more concessions for its members, workers received pay for at least part of days lost to inclement weather. In 1979 NTM boilermakers working near Minneapolis in the jurisdiction of local #647 earned \$12.00 an hour plus \$15.00 a day subsistence pay.⁷

At times boilermakers squabbled with members of other trade unions, usually ironworkers or pipe fitters, about which group had the right to perform tasks involved in constructing a water tower. Traditionally, ironworkers have erected structural components such as beams, struts, and girders; pipe fitters have worked with components that convey or transport fluids in motion; and boilermakers have constructed things to restrain or hold fluids, including ships, nuclear-containment vessels, storage tanks, and boilers. Since water towers have structural and containment components as well as piping, the possibility for competition between members of the three trades was considerable. Inter-union rivalries more frequently flared up on jobs near

large metropolitan areas, especially union strongholds such as Chicago or St. Louis. At times conflicts threatened to flare into violence. Finally, in about 1950 companies changed the way of fabricating water towers in order to reduce conflicts over union jurisdiction. The rapid changeover in design from tanks supported by lattice columns or legs to tanks consisting of tubular, air-tight columns made the erection of towers clearly boilermakers' work, although for a time they complained bitterly about the difficulty of working on the slippery, unclimbable structures.⁸

Another union often represented on the water-tower jobsite was the International Union of Operating Engineers. An operator ran the hoist, a winchlike apparatus that provided force to the cables of the derrick used to erect the tank. Most crew foremen were also skilled hoist operators, and if a crew could quietly build a tank without hiring a local operator, the foreman could reduce the cost of his payroll. This was the situation at Round Lake in 1955, and it helped the job come in under budget. In fairness, however, in many rural areas there was no operator nearby, or if available, his experience might be limited to road graders. He might then pass up the somewhat frightening prospect of working on a water tower, where an inexperienced hoist operator could easily endanger the workers' lives.⁹

In at least one situation, the hardening of union lines worked to the boilermakers' advantage. Before the mid-1950s, it was not unusual for a crew of boilermakers to erect, then paint, a water tower. Since painting was a grimy job that involved cleaning the tank of dirt (not an easy task if the jobsite was muddy), rust, and oil before applying the paint with brush, roller, and spray gun, boilermakers frequently "hated to paint tanks." Painting on older-style tanks with lattice legs was especially sloppy and tedious, and it was not uncommon, according to one source, for a worker to "shoot himself in the face" when attempting to achieve complete coverage of all the tower's nooks and crannies. When painters' unions began to demand that boilermakers stop painting tanks, little complaining was

⁷*Britannica Book of the Year*, 1970 ed., 23; *Encyclopedia Americana*, 1988 ed., s.v. "Fair Labor Standards Act"; Interpretation of NTM Agreement Rules, prepared for a job in Mendota Heights, 1979, in author's possession.

If a worker came to work while it was raining, he would receive two hours' pay, called "show-up time." If he began work and was rained out, he received four hours' pay.

⁸Hillman conversation. On a jobsite in Missouri, when boilermakers began to erect the tank's overflow pipe, pipe fitters arrived in force to stop the work. A compromise was eventually worked out, but competing tradesmen sometimes attempted to intimidate members of "opposing" unions; A. E. Spreng interviews.

⁹A. E. Spreng interviews.

heard from the boilermakers—or the wives, who usually washed the men's clothes.¹⁰

Another change in the tank builders' job description was the end of the task of tearing down old water towers. In large part the boilermakers worked themselves out of the job in the 1950s, by which time most of the old wooden tanks had been demolished. Tearing down an old tank could be simple, if there were space enough to pull it over with a bulldozer or fell it like a tree by cutting out a section of one leg and severing the opposite leg. But demolition was more often a matter of using saws to cut and drop pieces of the tank while trying to avoid nearby buildings or power lines. On the ground the frustration continued, as workers cut apart the rusty and paint-encrusted legs with torches. (Today this work is usually done by metal dealers seeking to sell the tank for scrap.)

MANY OF THE JOB CHANGES to which boilermakers adapted were not welcome ones. Until the 1950s, steel water-tower design had changed little since the turn of the century. Witness the nearly identical appearance of PDM's first water tower, erected in Scranton, Iowa, in 1897 and still in service in 1992, and a tank erected in Alvarado, Minnesota, in 1956. Only the balconies differed. The major difference in erection procedures had been the replacement of horsepower by engine-driven hoists and the use of metal rather than wooden rigging components.¹¹

Then, midcentury ushered in the era of welding, which replaced the rivets that had been driven for decades. When workers were told that they had to attend welding school to learn what was to become the essential skill of the boilermaker, they were "scared." Said Al Spreng, "We thought we would lose our jobs." Welding

required good eyesight and relied more on dexterity than on strength, unlike driving and bucking rivets. But workers' fears, which echoed those in other post-war industries, were unfounded; apparently, no one lost his job because of the new technology. PDM, for example, hired Harold House, a former employee of Lincoln Electric Company in Cleveland, a major manufacturer of welding equipment, to set up a facility and teach welding to its crews. The men received about two weeks of training in Des Moines. CBI led PDM in the transition from riveting to welding, building an all-welded tank with tubular columns on the campus of the University of Minnesota at Crookston in 1949, while PDM erected a riveted tank with lattice columns at Alvarado in 1956. PDM's delay was partly due to opposition within its sales department, but by the late 1950s all-welded tanks had become the norm.¹²

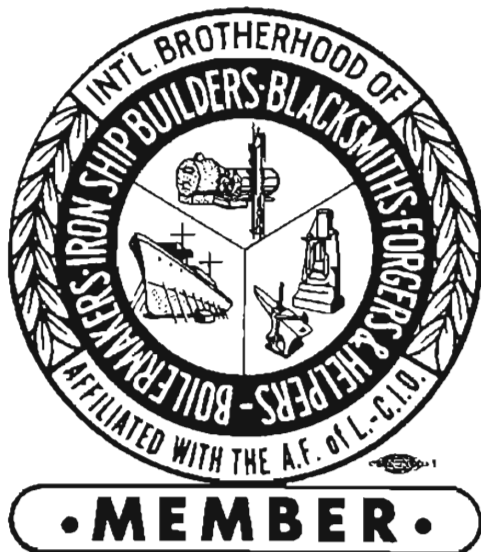
Welding brought with it other changes, including new methods of fitting and aligning steel plates before welding. Newer welding processes, such as wire-feed and submerged-arc welding, entered in the 1960s, and workers who had become accomplished hand welders feared that they might be replaced by a single technician operating an automatic welding machine. Such fears were again unfounded. Finally, new methods of quality control emerged. In the era of rivets, quality control was simple: a tank leaked, or it did not. Welded tanks, on the other hand, rarely leak, but their structural integrity may be compromised by improper welding. At first, cores were drilled from welds for visual inspection, a process called trepanning, but this method was replaced in the 1960s by radiographic testing, or x-raying. Both testing methods were reportedly often circumvented by welders and foremen eager to finish their tasks quickly and under budget, but there is no evidence of such chicanery leading to trouble.¹³

¹⁰Here and below, see A. E. Spreng interviews. The trend toward increased specialization of labor was accompanied by more sophisticated painting procedures and improvement in the paint, now often called a "coating system." Water towers also became community billboards, displaying graphics such as roses in Roseville and elk in Elk River or self-laudatory claims such as "Catfish Capital" in Floodwood.

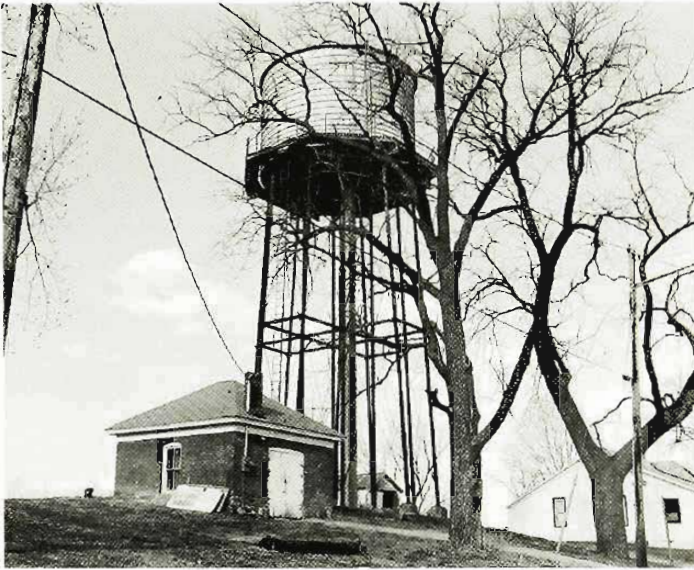
¹¹*Scientific American*, July 4, 1896, published an article and illustration of a 104,000-gallon water tower built in Fort Dodge, Iowa, by CBI. The story described the tank as offering a "pleasing contrast with the ordinary ugly wooden tank" (p. 5). The "ordinary" tank is nearly identical to the one at Round Lake that the author's father helped tear down in 1955. CBI built the same style tank until the late 1940s.

¹²Hillman conversation; A. E. Spreng interviews. Herbert Miller, who worked in the PDM sales department, opposed the new method, but consumer demand for welded tanks and CBI's move to all-welded tanks spurred on the change.

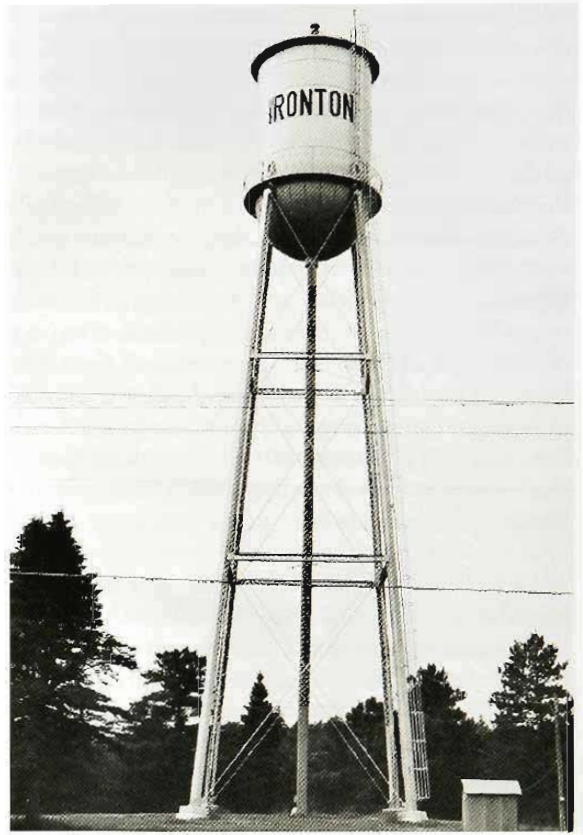
¹³A. E. Spreng interviews; Gaylord Brandt, telephone conversation with author, Mar. 17, 1991. Brandt has worked on water towers since the late 1960s for PDM and smaller companies.



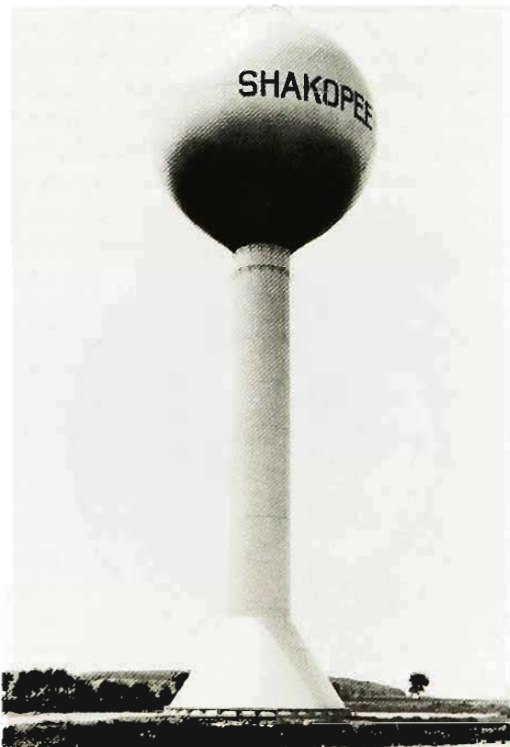
WATER TOWER DESIGNS



Wooden Design. Common in the nineteenth century; Elysian's tank, erected in 1896, was listed on the National Register of Historic Places in 1981 and razed in 1989.



Welded-Steel Design. Popular from the 1890s to the 1940s; Ironton's tank, built in 1913, is on the National Register of Historic Places.



Pedestal Design. Used from the 1960s to the present; Shakopee.



Torospherical Design. Popular from the 1950s to the present; Austin. Note central spiral staircase.



Double-Ellipsoidal Design. Dating from about 1950; Spreng's crew erected this tank at Willmar State Hospital in 1957.



Hydropillar Design. Used from 1962 to the present; the author helped erect this Red Lake Falls tank.

Tank builders in the 1960s also faced technological changes in the rigging and other equipment used to erect water towers. Since the 1930s most small elevated tanks had been assembled with the basket pole, a relatively lightweight eighty-foot lattice of steel that formed the mobile backbone of a versatile and simple erection system. But as the demand for water-storage facilities with larger capacities, easier maintenance, and more modern appearance grew, new tank designs came into existence that could not be erected with the basket pole. These included those known as the pedestal (often described as looking like a golf ball on a tee) and the pillar or hydropillar, which resembles a World War II German "potato masher" hand grenade with its handle stuck in the ground. These designs, as well as more traditional tank and tower designs with capacities of up to two million gallons, required a new, more efficient derrick system to replace the basket pole and the cumbersome guyed or braced derrick used on somewhat larger tanks.¹⁴

The result was the guyleless derrick, a very different piece of equipment from the simple basket pole. Heavy, cumbersome, and complex, requiring different knowledge and skills to rig, erect, utilize, and disassemble it, the guyleless derrick was difficult to master. Foremen who had learned about the basket pole "hands on" found the bulky technical manual explaining how to use the new piece of equipment intimidating. (Al Spreng remembers a collective gasp at the PDM foremen's meeting when the manual was first distributed.)¹⁵ With trial and error, however, the new derrick became the standard for erecting larger tanks and those of new design.

Safety practices also evolved in this era. Erecting elevated tanks is dangerous, and falls are the most obvious concern. Rigging block and tackle some ten stories in the air, walking on steel struts barely wider than one's boot, and welding while standing on a scaffold board a scant foot wide bring workers in harm's way. But relatively few falls occurred. Until the mid-1970s, when the Occupational Safety and Health Administration (OSHA) mandated the use of safety belts, workers normally did not tie themselves to the structure, except when foremen required that men working on tank roofs have ropes around their waists. Men did fall, sometimes due to their own carelessness or to human error, and tank builders and their families use the verb *fall* with a particular connotation, as in, "Didn't Marion have a man fall on that job?" A fall was usually to one's death,

¹⁴PDM claims in its sales brochures to have invented the hydropillar in 1962. It has erected more than three hundred. See, for example, "PDM Hydropillar . . . The Answer" (PDM, 1988), 3.

¹⁵A. E. Spreng interviews.

TRAVEL RECORD OF THE SPRENG FAMILY, 1948-60

This record begins in Denison, Iowa, with the birth of the author. For the first years, Al Spreng was in a crew led by R. D. "Bob" Lawson. In 1952 Spreng became foreman, and for the next few years his crew included the John McCulley family, the Marion Ryan family, and the Eugene Givens family.

Denison, Iowa	June 16, 1948	Mott, N. Dak.	Aug. 20-Sept. 10, 1952	Kalispell, Mont.	Mar. 28-Apr. 29, 1957
Toronto, S. Dak.	July 6-Aug. 16, 1948	Cottonwood, Minn.	Sept. 11-22, 1952	Hillsboro, Oreg.	May 1-6, 1957
Clarissa, Minn.	Aug. 17-Sept. ?, 1948	Des Moines, Iowa	Sept. 23-Oct. 16, 1952	Big Lake, Minn.	May 11-June 14, 1957
Verndale, Minn.	?, 1948	Mason City, Iowa	Oct. 16-Nov. 11, 1952	Willmar, Minn.	June 15-July 22, 1957
Powers Lake, N. Dak.	?, 1948	Brookings, S. Dak.	Nov. 13-Dec. 26, 1952	Eagle Butte, S. Dak.	July 23-Aug. 14, 1957
Medina, N. Dak.	?, 1948			Lansford, N. Dak.	Aug. 15-Sept. 21, 1957
Deshler, Nebr.	Dec. 12-21, 1948	Springhill, La.	Jan. 1-29, 1953	Neché, N. Dak.	Sept. 21-Oct. 14, 1957
		Joplin, Mo.	Jan. 31-Mar. 19, 1953	Mason City, Iowa	Oct. 16-Nov. 2, 1957
Havensville,		Woolstock, Iowa	Mar. 20-28, 1953	Lawrence, Kans.	Nov. 5-December 4, 1957
Kans.	Dec. 21, 1948-Jan. 20, 1949	Mason City, Iowa	Mar. 29-Apr. 8, 1953		
Eskridge, Kans.	Jan. 20-Mar. 4, 1949	Perry, Iowa	Apr. 8-May 5, 1953	Lafayette, La.	Dec. 7, 1957-Jan. 26, 1958
Humboldt, Iowa	Mar. 4-27, 1949	Baldwin City, Kans.	May 5-June 18, 1953	Lake Charles, La.	Jan. 26-Feb. 23, 1958
Fargo, N. Dak.	Mar. 28-31, 1949	Independence, Mo.	June 18-July 31, 1953	Ulysses, Kans.	Feb. 23-Apr. 17, 1958
Bird Island, Minn.	Mar. 31-May 10, 1949	Des Moines, Iowa	July 31-Sept. 10, 1953	St. Hilaire, Minn.	Apr. 18-May 14, 1958
Hutchinson, Minn.	May 10-June 5, 1949	Clidden, Iowa	Sept. 10-Oct. 22, 1953	Willow City, N. Dak.	May 14-June 4, 1958
Dexter, Minn.	June 5-July 3, 1949	Wildrose, N. Dak.	Oct. 24-Nov. 16, 1953	Kinney, Minn.	June 6-24, 1958
Dorrance, Kans.	July 7-30, 1949	Hazelton, Iowa	Nov. 18-Dec. 12, 1953	Aitkin, Minn.	June 24-Aug. 7, 1958
Lakin, Kans.	July 31-Aug. 13, 1949	Clidden, Iowa	Dec. 12-31, 1953	Superior, Wis.	Aug. 7-Sept. 8, 1958
Persia, Iowa	arrived Aug. 14, 1949			Floydada, Tex.	Sept. 14-Oct. 28, 1958
Lawton, Iowa	Sept. 9-Oct. 10, 1949	Rankin, Tex.	Jan. 2-Feb. 8, 1954	Gunnison, Colo.	Oct. 28-Nov. 21, 1958
Granada, Minn.	Oct. 10-23, 1949	Seagraves, Tex.	Feb. 8-Mar. 1, 1954	Colo.	Nov. 21, 1958-Feb. 12, 1959
		Richardson, Tex.	Mar. 2-12, 1954	Georgetown, Tex.	Feb. 12-Mar. 6, 1959
Hopkins, Minn.	Oct. 25, 1949-Mar. 7, 1950	Midland, Tex.	Mar. 13-May 4, 1954	Nashville, Ark.	Mar. 8-Apr. 10, 1959
Salem, Iowa	Mar. 14-Apr. 6, 1950	Plano, Tex.	May 5-6, 1954	Armité, La.	Apr. 12-May 20, 1959
Hampton, Iowa	Apr. 7-May 10, 1950	Mt. Pleasant, Tex.	May 6-June 19, 1954	Dickinson, Tex.	May 21-July 11, 1959
Cedar Falls, Iowa	May 11-Aug. 26, 1950	Des Moines, Iowa	June 20-21, 1954		
Anamosa, Iowa	Aug. 27-Oct. 8, 1950	Estherville, Iowa	June 21-July 18, 1954	Pecos, Tex.	July 13-Aug. 14, 1959
Prairie du Chien, Wis.	arrived Oct. 8, 1950	Fargo, N. Dak.	July 18-Aug. 4, 1954	(second child born)	
East Dubuque, Ill.	arrived Oct. 15, 1950	Minnewaukan,		Greeley, Kans.	Aug. 16-Sept. 5, 1959
Dubuque, Iowa	arrived Oct. 24, 1950	N. Dak.	Aug. 4-Sept. 5, 1954	Powder River, Wyo.	Sept. 7-Oct. 20, 1959
Neosho, Mo.	Nov. 9, 1950	Ulen, Minn.	Sept. 5-Oct. 4, 1954	Rocky Ford, Colo.	Oct. 21-25, 1959
Hollis, Okla.	Nov. 10, 1950	Lake Bronson, Minn.	Oct. 4-22, 1954	Garden City, Kans.	Oct. 26-Nov. 8, 1959
		Newfolden, Minn.	Oct. 22-Nov. 19, 1954		
McCamey, Tex.	Nov. 11, 1950-Jan. 3, 1951	Lincoln, Nebr.	Nov. 21-Dec. 21, 1954	Englewood,	
Carlsbad, N. Mex.	Jan. 4-Feb. 12, 1951			Colo.	Nov. 8, 1959-Jan. 13, 1960
Ropesville, Tex.	Feb. 13-Mar. 3, 1951	Vacation	Dec. 21, 1954-Jan. 1, 1955	Kingman, Kans.	Jan. 16-Feb. 10, 1960
Earth, Tex.	arrived Mar. 4, 1951	Council Grove, Kans.	Jan. 2-Feb. 18, 1955	Borger, Tex.	Feb. 11-Mar. 22, 1960
Wolfe City, Tex.	arrived Mar. 20, 1951	Des Moines, Iowa		Seminole, Tex.	Mar. 23-Apr. 26, 1960
Haltom City, Tex.	arrived Apr. 5, 1951	(welding school)	Feb. 21-Apr. 5, 1955	Waskom, Tex.	Apr. 28-May 17, 1960
East Bernard, Tex.	May 5-June 16, 1951	Round Lake, Minn.	Apr. 6-May 12, 1955	Benbrook, Tex.	May 18-July 20, 1960
Houston, Tex.	June 16-July 27, 1951	Tyler, Minn.	May 13-June 18, 1955	Port Lavaca, Tex.	July 21-Aug. 23, 1960
Hobart, Okla.	July 27, 1951	Wells, Minn.	June 18-Aug. 1, 1955	Port Acres, Tex.	Aug. 23-Oct. 6, 1960
		Plaza, N. Dak.	Aug. 3-24, 1955	Holton, Kans.	Oct. 8-Oct. 12, 1960
Medicine Lodge,		Jackson, Minn.	Aug. 28-Oct. 11, 1955	Lake Crystal, Minn.	Oct. 13, 1960-present
Kans.	July 28-Aug. 18, 1951	Shakopee, Minn.	Oct. 11-Nov. 4, 1955		
Clearwater, Kans.	Aug. 19-Oct. 1, 1951	LeRoy, Minn.	Nov. 7-Dec. 28, 1955		
Wichita, Kans.	Oct. 1-11, 1951			Sources: Spreng Family papers, interviews	
Clifton, Kans.	Oct. 11-Nov. 1, 1951	Ripon, Wis.	Dec. 29, 1955-Feb. 6, 1956	with family members, and PDM newsletters	
Oakland, Iowa	Nov. 1-11, 1951	Waco, Tex.	Feb. 11-Mar. 9, 1956	<i>Spreng residence, Hazelton, Iowa, 1953</i>	
Braymer, Mo.	Nov. 12-Dec. 4, 1951	Larned, Kans.	Mar. 10-Apr. 20, 1956		
Fayetteville, Ark.	Dec. 6?, 1951	Minot, N. Dak.	Apr. 22-May 20, 1956		
		Grand Forks,			
Alexandria, La.	Dec. 7, 1951-Jan. 23, 1952	N. Dak.	May 20-June 14, 1956		
Texarkana, Tex.	Jan. 23-Feb. 27, 1952	Hysham, Mont.	June 16-July 20, 1956		
Rosenburg, Tex.	Feb. 27-Apr. 6, 1952	Milan, Illinois	July 23-Aug. 24, 1956		
El Campo, Tex.	Apr. 7-30, 1952	Belton, Mo.	Sept. 10-Oct. 24, 1956		
Montour, Iowa	May 2-16, 1952	Montrose, Mo.	Oct. 25-Nov. 17, 1956		
Eddyville, Iowa	May 17-June 2, 1952	Maysville, Mo.	Nov. 19-Dec. 21, 1956		
Washington, Iowa	June 2-22, 1952				
Richland, Iowa	June 22-July 8, 1952	Littleton,			
Minneapolis, Minn.	July 9, 1952	Colo.	Dec. 23, 1956-Feb. 11, 1957		
Orr, Minn.	July 10-Aug. 2, 1952	South Sioux City,			
Streeter, N. Dak.	Aug. 2-20, 1952	Nebr.	Feb. 12-Mar. 15, 1957		



The 8-by-33-foot Spreng residence, 1956, with author on step and mother barely visible at window

although there were exceptions. Alton Heer, for example, fell from the balcony of a tank in Independence, Missouri, in 1953 and caught himself on a cable with one finger.¹⁶

In addition to falling, there were other obvious occupational dangers: cuts, burns, and, the most common one, foreign objects in the eye, as well as hazards common to construction, such as hearing loss. Another significant threat was being struck by a falling object. Most men considered work on the ground more hazardous than work in the air, and stories of hits and near misses were common among crewmen. Gaylord Brandt once accidentally dropped a piece of angle iron on a fellow worker, miraculously causing him mostly a

“good scare.” Spreng had his sleeve torn off by an object falling from the balcony of a tank. Afterward he “sat in the shade and shook for a while.” When something fell from a tank, anyone aware of it yelled, “Headache!” an announcement that commanded the immediate and undivided attention of those below.¹⁷

IN ADDITION TO coping with changing conditions and the dangerous nature of the work, crews and their families found themselves moving to new communities, setting up housekeeping, and perhaps registering children in schools more than once a month. The Spreng family and the crew they traveled with lived in fifteen different communities in 1951, fourteen in 1952, twelve in 1953, and thirteen in 1954. This degree of itinerancy was not regarded as unusual in the business. The author attended forty-one different schools scattered over several midwestern and south-central states before beginning seventh grade. As the years passed and the size of water tanks increased, workers moved less often. In the 1970s it was not unusual for a job to last several months. But an all-welded, fifty-thousand-gallon water tower, a small tank very widely built in the 1950s and 1960s, could be erected by an experienced crew in eleven working days, and crews frequently built several tanks of this size consecutively. This meant that school-age children in these families had to adjust quickly to a rapid succession of new schools, principals, expectations, disciplinary procedures, textbooks, teachers, schoolyard bullies, and more. A child might jump from a one-room schoolhouse on Friday to a sprawling campus on Monday, or move from a racially segregated to

¹⁶Brandt conversation; A. E. Spreng interviews; Helen Spreng (author's mother), interview with author, Lake Crystal, Dec. 30, 1990. PDM accident reports show no change in frequency or severity of accidents from 1970 to 1979, the decade in which OSHA regulations were implemented. Some workers, however, gained a reputation for carelessness and falling. Spreng tells the story of his “buddy,” Elmer “Swede” Pearson, who tied himself to the roof of a tank, but attached his rope to a nut that had been only barely welded to the tank's shell; when stress was applied, the weld broke and he fell to his death.

¹⁷PDM accident records, in author's possession; Brandt conversation; A. E. Spreng interviews. Even in the 1970s when OSHA mandated the use of safety glasses, about 40 percent of all injuries were to the eye, most often from an imbedded object. Hearing loss was caused by the loud noises associated with grinding, caulking, riveting, and chipping, frequently in enclosed spaces. When OSHA required the use of ear plugs or swedish wool in the ears, workers complained about the dangers caused by muffled hearing.



Water tower and trailer park in Rosemount, 1945

an integrated school. Nina Ryan, whose husband, Marion, has been an NTM boilermaker and PDM employee since the 1950s, remembers, "The people we knew best were from the Welcome Wagon." But parents sometimes saw an advantage in such a hectic educational chronology, pointing out that the opportunity "to see so much" might make up for any other shortcomings.¹⁸

Concern for their children's education, however, was the primary reason that tank-building families either quit the business or arranged for the mother and children to establish a permanent residence while Dad worked "on the road." The Spreng family followed this pattern, buying property in Lake Crystal, Minnesota, in the fall of 1960. Al Spreng spent the next twenty years living in motels and apartments and driving home on weekends when possible, sometimes being away from home for several weeks at a time.

For families that did not settle down, life was complicated. Involvement in religious, civic, or social organizations was nearly impossible, and a tank builder who regularly attended Mass was considered exceptional. When a family's mail was delivered to an unending sequence of general-delivery addresses, such common expectations as a child receiving a birthday card from a grandparent were no longer reasonable. Handling taxes, insurance payments, automobile registration, and finances, not to mention medical or dental care, became a challenge. Cashing a check was problematic when a person had no telephone and a hotel room for a local address. Renting an apartment could be difficult, particularly in a tourist area during the

busy season, and housing was often expensive, inadequate, or distant from the jobsite.

Many families responded to the challenge by living in house trailers, typically eight feet wide and less than forty feet long. The tribulations of moving these trailers from job to job in inclement weather, over roads pre-dating the interstate system, with accompanying breakdowns and blown tires, provide the basis for countless anecdotes, some humorous, some tragic. But living together in a trailer was one of the means by which tank builders and their families established a sense of identity. The trailer was home, and it might carry the entirety of the family's earthly goods. For many "tankies," living in a trailer was the trademark of a tank-building family. In the words of one: "I bought the traditional trailer house and truck to pull it like all the other tankies." When a crew comprising a few families living in their own trailers found it possible to park near one another, some sense of community could be maintained. It also helped if the crew members stayed and traveled together for several consecutive jobs, as often happened. But employers sometimes shifted workers from crew to crew, and workers sometimes became foremen, taking over crews of their own.¹⁹

¹⁸Hillman conversation; A. E. and Helen Spreng interviews; Nina Ryan, telephone conversation, Mar. 3, 1991.

¹⁹Eugene Holmes to author, Mar. 4, 1991. Holmes, an NTM boilermaker since 1963, worked as a radiographer and weld technician in the early 1960s. He purchased his trailer in 1964.

Families considered themselves fortunate if they could find a spacious trailer park with such luxuries as a playground or laundromat. But there were times when a place could not be found, and the next month was spent parked on the street, at the jobsite, or in someone's yard. These arrangements required resourcefulness in finding connections for water, electricity, and sewage. Extension cords and garden hoses provided vital but fragile lifelines. Another problem in Minnesota was keeping plumbing pipes from freezing during the long winters.

Once a family found a place to live in a new community, it faced the challenge of being accepted by new neighbors. Given the negative reputation of most transient groups, a town's response depended largely on the extent to which the visitors lived up—or down—to its expectations. Examples of both abound, whether it be members of a crew setting off a fireworks vendor's entire inventory in Midland, Texas, or a crew assisting a volunteer fire department in extinguishing a house fire in St. Hilaire, Minnesota. Some workmen gained a reputation for being wild or on "the wrong side of the law," but communities were often pleasantly surprised by the decorum of crews and their families. PDM newsletter articles from the 1950s ran the full texts of letters from town officials in Ulen, Minnesota, and Lecompton, Kansas, about the good behavior of the Spreng crew and other PDM employees. Community relations were more likely to remain cordial when crew members

avoided dropping tools, objects, or paint on the populace and their property and if welders' sparks did not ignite any fires.²⁰

The lives of transient boilermakers differed from those of many other highly mobile workers. Unlike fair and carnival laborers or grain and produce harvesters, tank builders followed no annual migratory route. The work was not seasonal, and a crew might be working in Texas in July and Minnesota in January. As trade-union members, the tank builders earned good money, much in contrast to migrant farm workers. Boilermakers rarely knew where they would be living more than a few weeks ahead of time, and those plans could change at a moment's notice. Traditions important to many extended families, such as holiday get-togethers, were difficult to maintain when people did not know in October whether they would be in Texas or Iowa—or perhaps traveling between the two—at Christmas time.

The factors of a dangerous occupation undergoing sometimes threatening technological changes and the complications of an unsettled, nomadic existence combined to create a life-style that offered unique difficulties and opportunities to the families that experienced it. In the words of Helen Spreng: "Our life was a little different than most, wasn't it?"²¹ Today, few people continue to share the experience that was common to the tank-building families of the postwar era, the years when thousands of water towers sprang up to compete with grain elevators for dominance of the rural midwestern landscape.

²⁰Undated letters from Conn M. Bjerke, village clerk, Ulen, and from officials in Lecompton to PDM, published in PDM newsletter, Fall 1954[?], Winter 1957–58[?]; A. E. Spreng interviews. Hillman once had to post bail for a crew after he received a telephone call from a customer asking when a new crew would replace the one in jail.

²¹Helen Spreng to author, Apr. 2, 1991.

The illustrations on p. 132, 133, 135, 138, and 139 are from the Spreng family collection; the photos on p. 130, 136 top left and top right, and 137 top are from the State Historic Preservation Office, MHS; the others are from the MHS collections.



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