

CARGILL FERTILIZER, INC.
1924-1994

Seventy Years of Achievement and Growth





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Cargill Fertilizer, Inc. wishes to thank all the employees, retirees, customers and members of the community that have helped in putting this commemorative book together.

Jeff Karon, author, researcher
Gwen Kearley, cover designer
Jim Kenefick, layout/graphics designer
Brenda Menendez, editor, project manager

Contributing editors:
Elin Oak, Gianna Russo, Don Clark and
Greg Lauser

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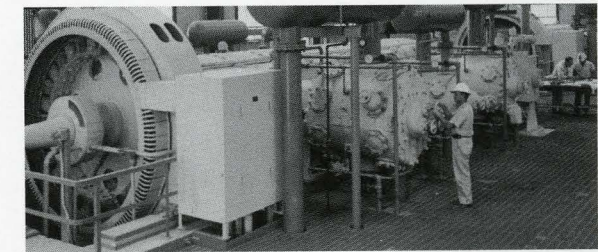
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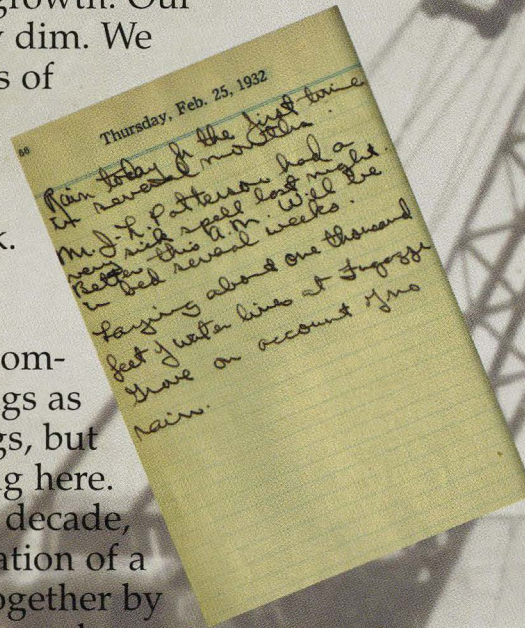
Foreword

"There is properly no history: only biography."

Emerson

The history of a business is composed of the lives of everyone who was a part of its founding and growth. Our memories grow dim. We forget many stories of the daily struggle to keep a plant functioning, to make everything work.

Anniversaries may commemorate endings as well as beginnings, but there is no ending here. This is the eighth decade, the newest generation of a plant fastened together by many generations of employees who have worked, played, and raised families here. There are no new processes or complex machines without people to make them work. There are no improved communities without people who care. We celebrate seventy years of caring and hard work.



"There's only one way to work...like hell."

Bette Davis

EAST
BAY
1879

Boom and Depression: The 20s - 30s

Why are we here today?

In order to provide water-soluble fertilizers suitable for crops, insoluble phosphate rock must be combined with sulfuric acid, which is used in final granular products. During the concentration stage of producing the phosphoric acid, fluorine is recovered and sold for use in water fluoridation. Ammonia is combined with the phosphoric acid to create diammonium phosphate (DAP), or monoammonium phosphate (MAP). Another product, granular triple super phosphate (GTSP), is produced by mixing together phosphate rock and phosphoric acid. Thus the raw materials phosphate, sulfur and ammonia are transformed into fertilizer. But everything begins with the discovery, mining, and recovery of phosphate rock.

Discovered in 1881, Central Florida's phosphate deposits created hundreds of mining operations by the turn of the century. Tampa Bay became a major shipping port for phosphate, prompting the 1916 Tampa Board of Trade to tout the one million tons of phosphate rock—shipped annually—more than any other port in the world.

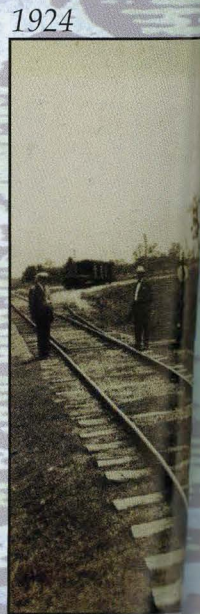
Without access to sufficient phosphate rock, our plant would not exist. We transform an insoluble raw material into a number of fertilizer products, but our success is tightly wedded to that of phosphate mining.



1924

By the early 1920s, Tampa Bay was in the midst of an economic and population boom, fueled by the cigar and fertilizer industries. In the midst of this feverish economic activity, U.S. Export Chemical Corporation established a plant at what was little more than a rail head known as

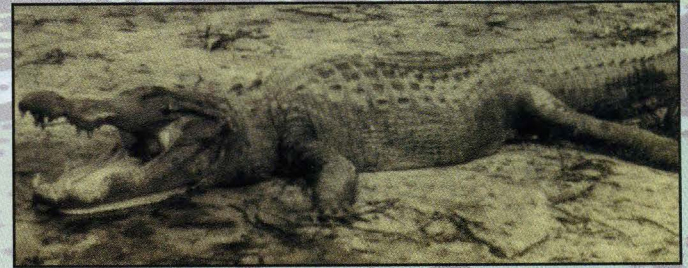
Tikal, Fla. (now Riverview). There was only one building: a powerhouse whose single diesel electric generator supplied not only the company, but also residents of Gibsonton and Riverview.



1924

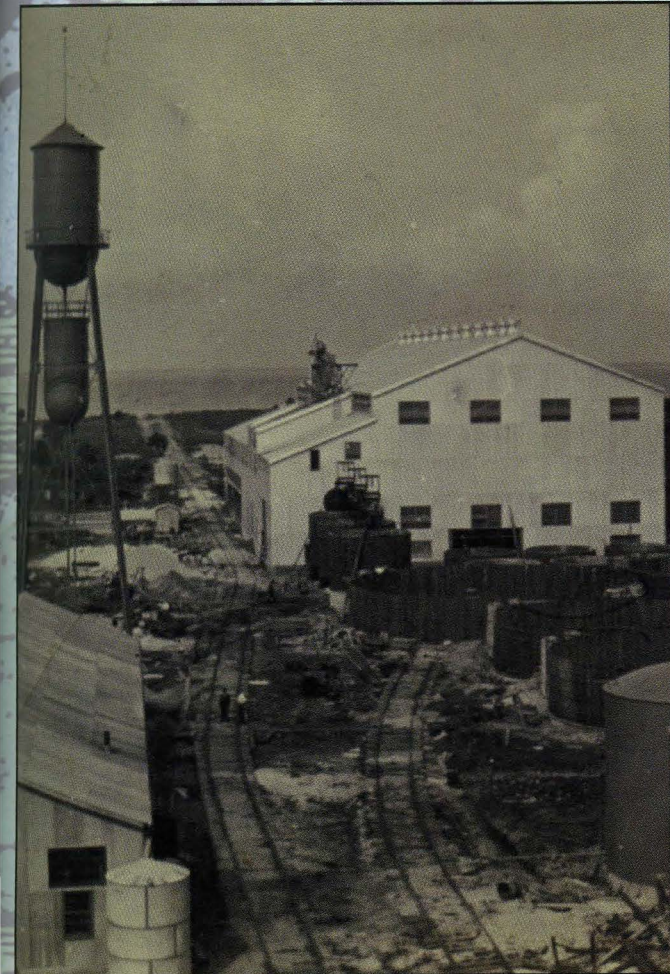
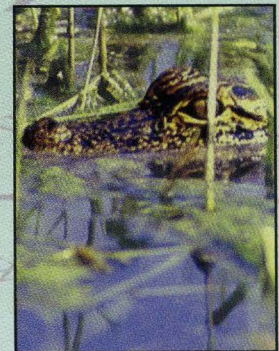
By 1925, construction was completed on a phosphoric acid plant as well as one of the country's first triple superphosphate (TSP) plants. The Triple Building and Phosphoric Acid Plant could produce up to 40 tons of finished TSP fertilizer product per day.

Though in 1926 the company was rocked by economic problems, 1927 ushered in a long era of development when the plant was acquired by the Tennessee Corporation. The Tennessee Corporation owned the Tennessee Copper Company (TCC), based in Copperhill, Tennessee, whose copper smelting operations produced sulfuric acid. The acquisition of our fertilizer plant, among others, provided TCC with an economical way to utilize sulfuric acid.

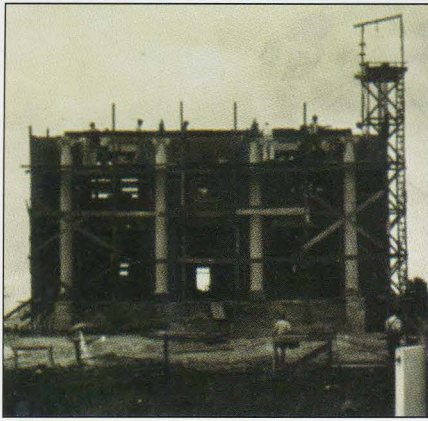


Alligators such as this one—killed in 1924—were not uncommon during the plant's early years. In time, animals were not viewed as adversaries, as the capture of an alligator near the Ammonia Plant in May 1972 attests. Four men lifted the 8 foot - 5 inch bull into the back of a pickup for transport to the banks of the Alafia River where he was released. Now we work closely with state environmental agencies and conservation groups to return animals to the land.

We also return the land to the animals in the form of wetlands and wildlife refuges.

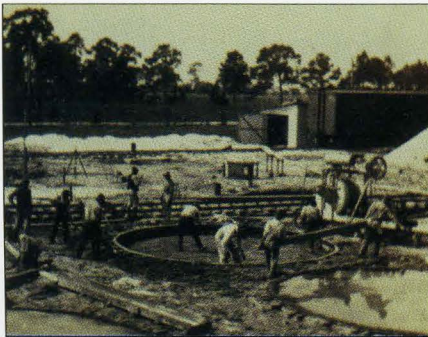


Triple Super Phosphate Building and Water Tower, 1925



Office Building under construction, January 28, 1930

Before the Sulfuric Acid plant went on-line in 1929, sulfuric acid from Copperhill, Tennessee was stored in several small steel tanks. These days our storage tanks not only are constantly tested for structural integrity, but are surrounded by polyethylene-lined cement berms to ensure environmental protection.



Construction of tanks in 1924

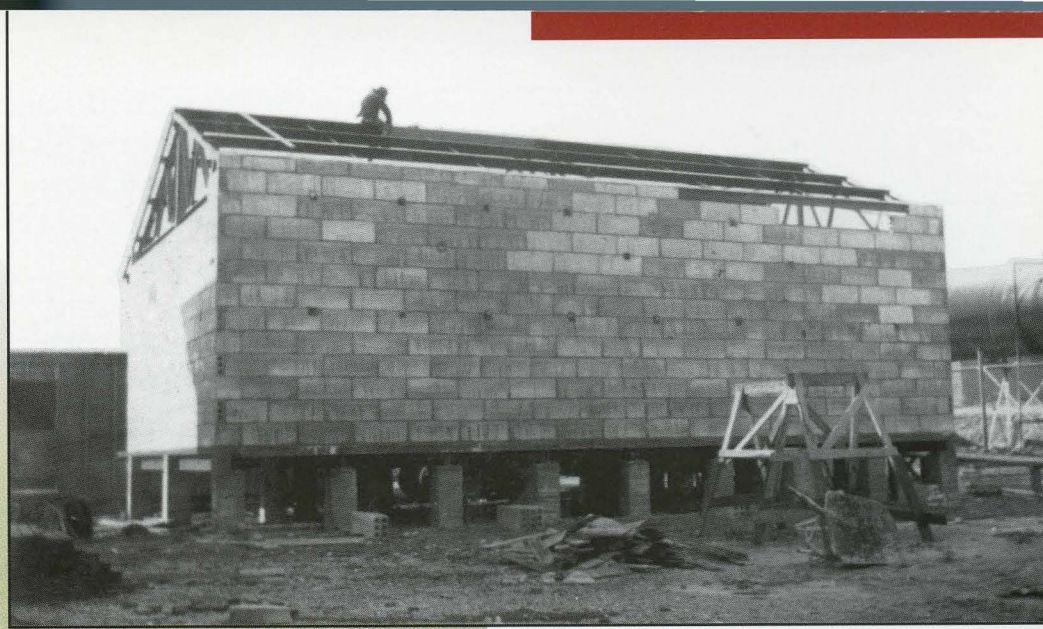
In the same year that Charles Lindbergh crossed the Atlantic from New York to Paris, the phosphate mining industry got a boost from the newly perfected flotation system for phosphate recovery. The newly renamed U.S. Phosphoric Products would rapidly expand.

With the stock market crash of 1929, America was plunged into the Great Depression. By 1932, there were 20 million people unemployed throughout the industrialized world. Nonetheless, the first Sulfuric Acid and Single Super



Manufacturing plants were operating by 1929—no longer was all of the plant's sulfuric acid shipped from Copperhill, Tennessee.

The Main Office Building—a replica of one in Copperhill, Tennessee—and the first deep-water docks were built in 1930. The plant also began manufacturing gypsum plaster and block, the latter of which was used to build the Block Plant, otherwise known as the Block House.



*Gypsum Plaster Storage Shed,
December 4, 1930*



*Main Office Building
completed in 1930*



The product was made only for a few years after which the building was dismantled.



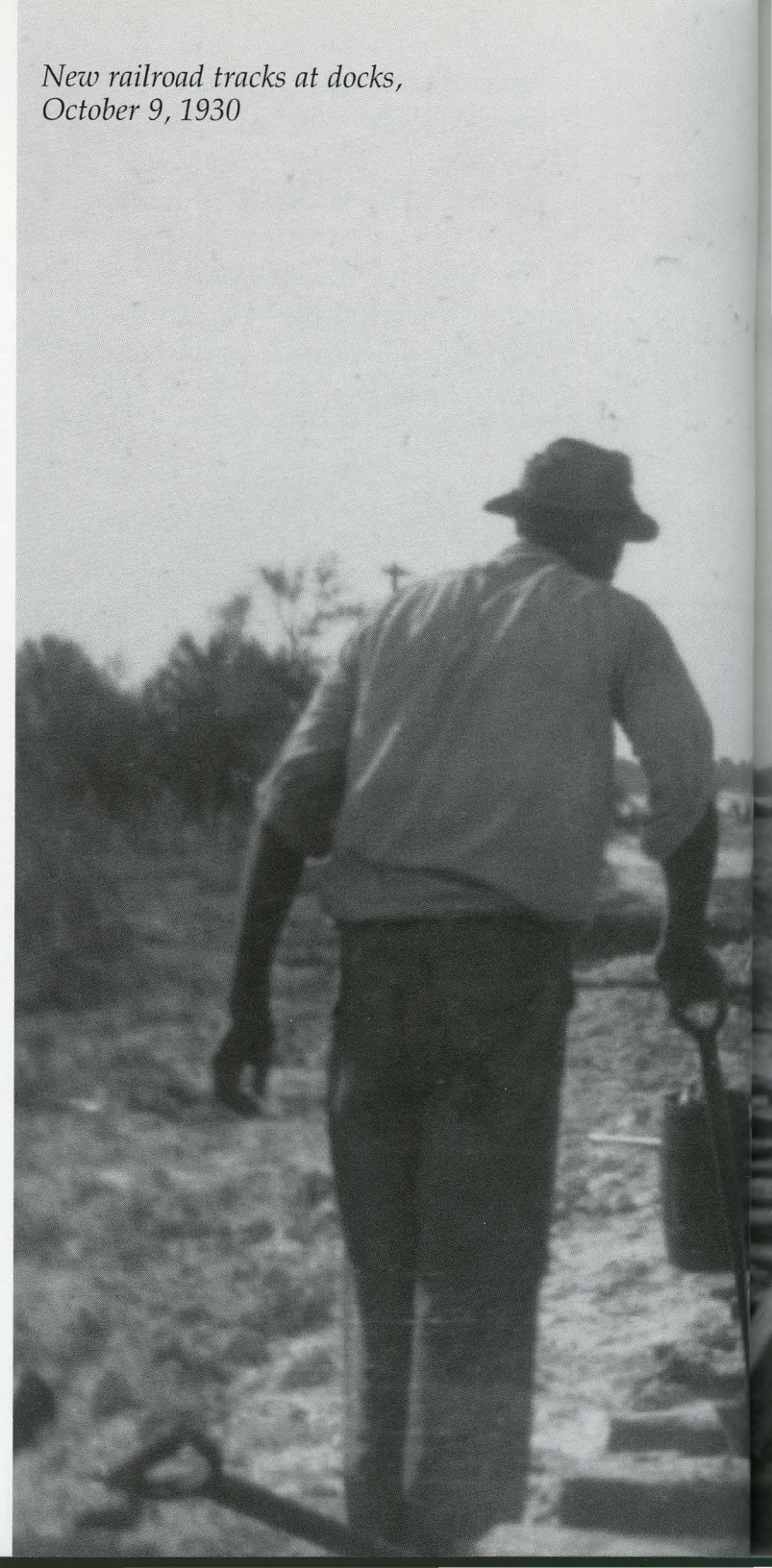
*Concrete floor at docks,
November 6, 1930*

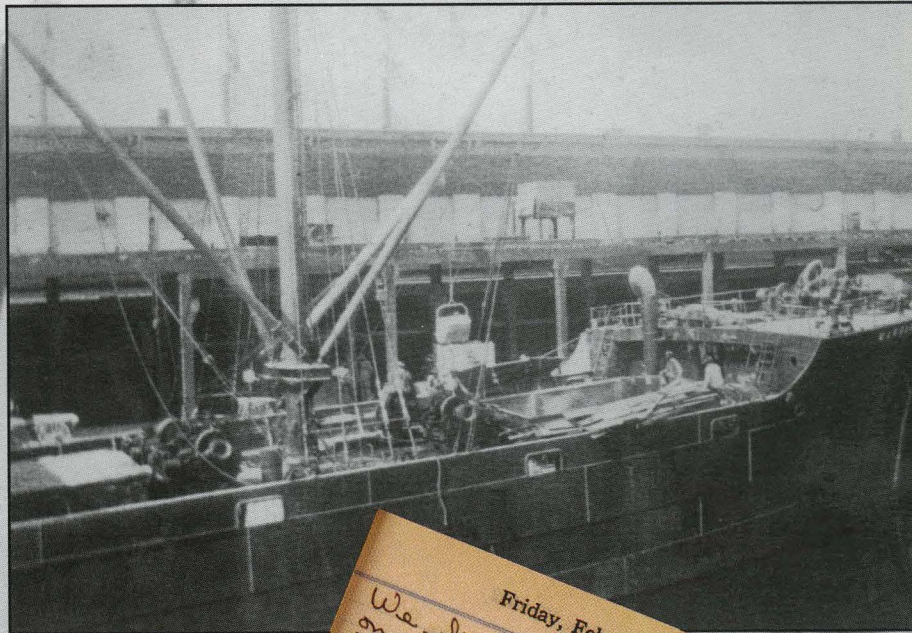
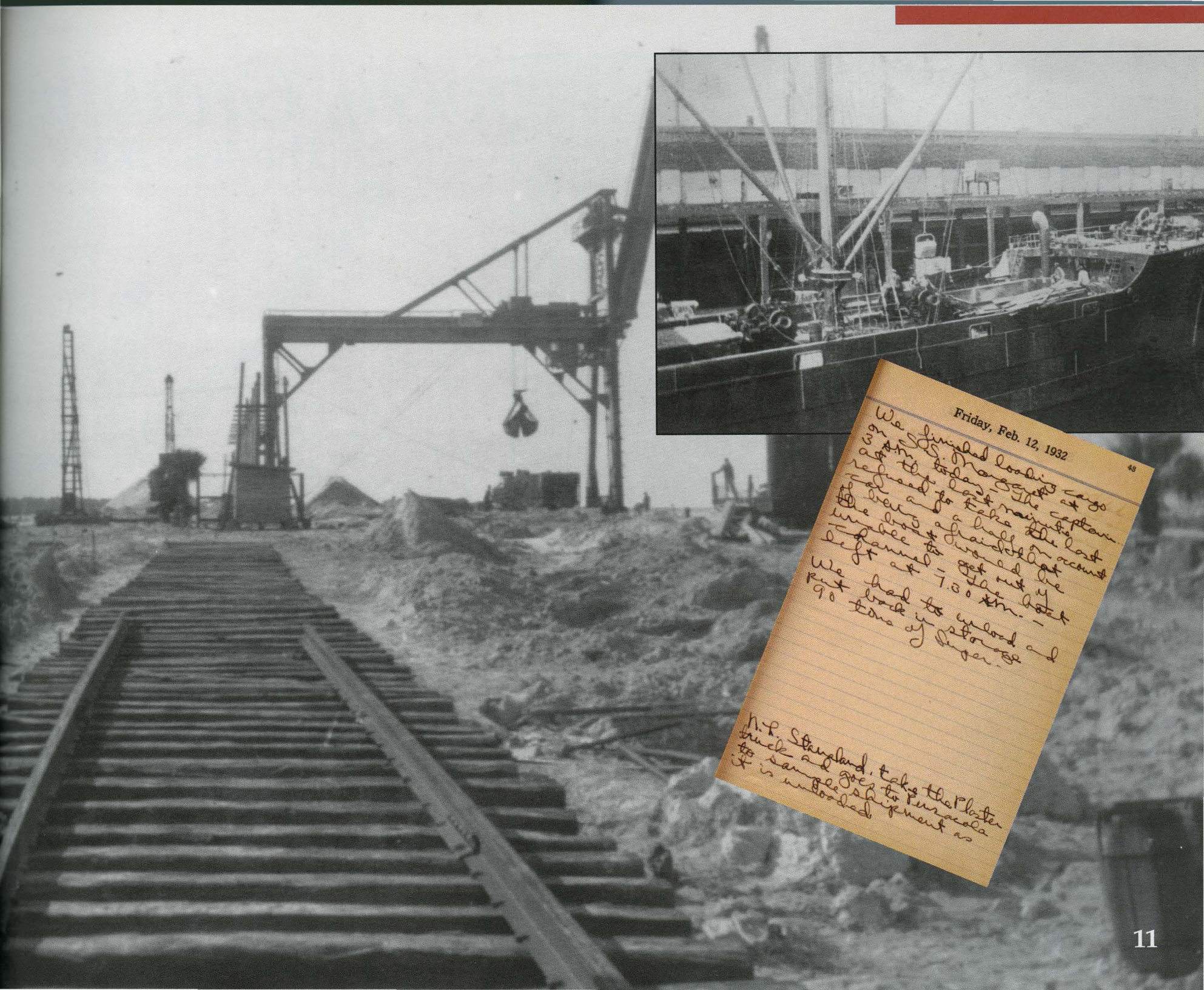
During 1931 and 1932, the fertilizer industry suffered from the Depression. Production of TSP and sulfuric acid came to a near standstill. In fact, 1932 was bad for the entire phosphate industry since so many markets were lost. But in 1933, the plant went back to full operation. As early as

1935, the plant formulated specialty agricultural chemicals such as a lime-sulfur solution for spraying citrus trees. The addition of a second sulfuric acid plant in 1938 meant that the company no longer depended on outside sources for this vital raw material.

By the end of the decade the world was in turmoil. The United States was on the brink of war with Germany and Japan.

*New railroad tracks at docks,
October 9, 1930*





Friday, Feb. 12, 1932

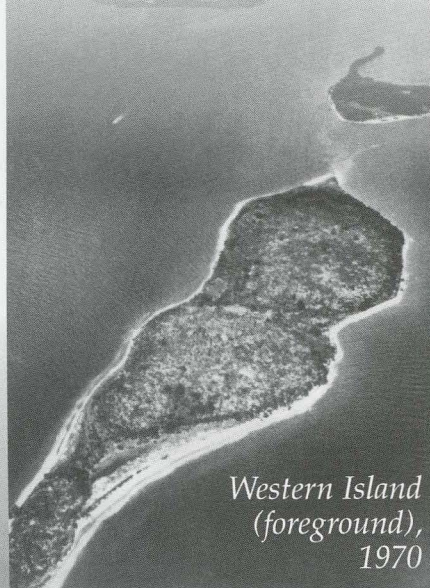
We finished loading cargo
on S. M. at 3 PM. The captain
at the dock refused to let us
take a haul on account
of the weather. We had to
unload the cargo and
leave at 7:30 PM. We
had to unload and
put back in storage
90 tons of sugar.

N. F. Standand, take the plates
truck and give to Kuzacala
to sample shipment as
it is unloaded.

A Look Ahead

In 1970, the company added the western island to the lease agreement with the National Audubon Society. In this year, brown pelicans began moving onto the eastern island, forcing the white ibis and other birds to the western island.

Less than 300 yards from plant property, the Alafia Bank, commonly called the "Bird Islands," are sanctuaries for one of the largest and most diverse bird colonies in the United States.



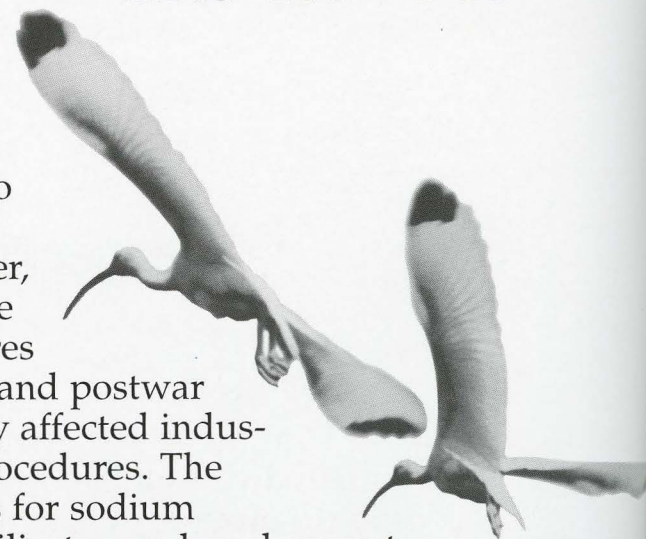
Western Island
(foreground),
1970

War, Recovery, Growth: The 40s - 50s

The dynamics of the industry would dramatically shift after 1941. After entering the war, our nation not only had to feed itself but also contribute to feeding the Allies. In this same year, L. C. Oakley, an engineer who would later become president of the company, developed the process used for the manufacture of sodium fluorosilicate. The Sodium Fluorosilicate Plant was the only fluorine recovery project in the United States at the time. U.S.P.P. marketed several forms of fluorine for use not only in water fluoridation, but also for the production of fiberglass, laundry bleaches, and aluminum products. We are

likely to forget, however, how the pressures of war and postwar security affected industrial procedures. The process for sodium fluorosilicate was largely secret, just as uranium recovery processes would be later.

During the next decade, No. 3, 4, and 5 Sulfuric Acid Plants, as well as a corresponding number of concentrators for the Phosphoric Acid Department, were put into production.



The White Ibis

"In 1939 there wasn't a lot going on. I started at 50 1/2 cents an hour."

- Horace R. Royal, retired after nearly 46 years

"Partnerships between industry and environmental groups can provide highly creative opportunities to be good stewards of the environment."

- Henk Mathot,

President, Cargill Fertilizer (1986 - 1994) and member of the National Audubon President's Council (1988 - 1994)

In the midst of this industrial expansion, U.S.P.P. in 1942 leased—for one dollar per year—the east bank of the Alafia to the National Audubon Society. This spoil bank was created by channel dredging in the 1920s in order to provide the plant with port access. Since 1934, Audubon has been instrumental in protecting ground nesters at the new spoil banks.

As the country began its post-war recovery, more people began settling in the Tampa Bay area.



With the installation of dryers in 1952, the company eliminated a reprocessing stage and thus developed the first continuous triple superphosphate process in the industry. In 1954 the company developed coarse triple superphosphate fertilizer.

This is the No. 3 Sulfuric Acid Plant in the early 1940s. The largest Mills-Packard chamber sulfuric acid plant in the world at the time, it was transported from TCC's Isabella plant in Tennessee.



Tampa Plant, 1956

When we think of technological innovation in this industry, we may forget about advances in handling information, so crucial to contemporary industrial processes. The Electronic Data Processing Department was cre-



ated in 1957 when electronic accounting machines were installed. Presently, not only all accounting functions, but most company monitoring operations are on a fiber optic computer grid system.

The plant now uses computers to monitor environmental protection.

Operations are watched from plant command centers in each plant.



It also began manufacturing potassium fluorosilicate, used for water fluoridation. Manufacturing of the latter product was discontinued in 1965.

Production and development continued during the rest of the decade. The company developed granular triple superphosphate in 1954.

In 1957, with the world's attention riveted on the successful launch of the Soviet Sputnik, the company contracted with the Atomic Energy Commission to design, build, and operate a plant which removed the tiny amount of uranium present in Florida soil by means of a solvent and centrifuge. Everything connected



with the project was kept under tight security until the contract expired in 1961, at which time the project was discontinued and the plant decommissioned.

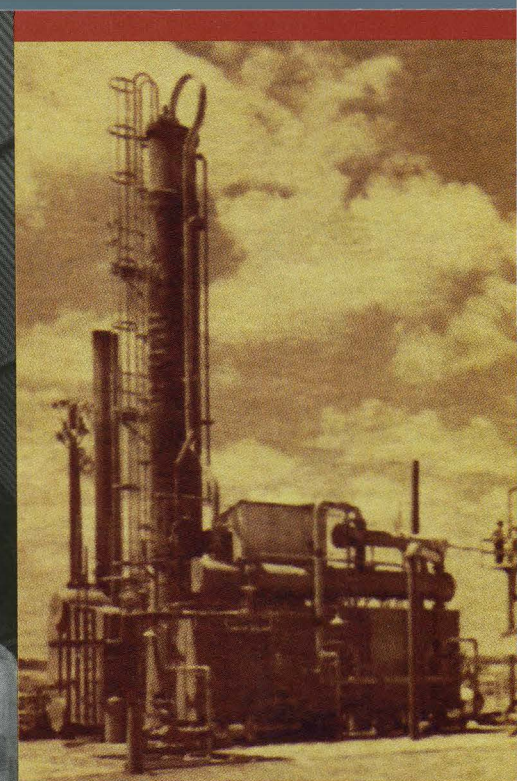
Triple Superphosphate Bagging and Loading Operation
November 19, 1954

"In 1951 there wasn't much going on . . . no oranges to pick. So I was kinda glad to see this plant here." -Otis L. Brandon, retired after more than 34 years

A decade of research was capped by the development of diammonium phosphate (DAP) by company engineers Houston and Moore in 1959. Not only was the company the first to create the technology for DAP (sold under the trade name "Di-Mon"), the process continues to be utilized today throughout the world. The technology will remain one of this plant's major accomplishments.

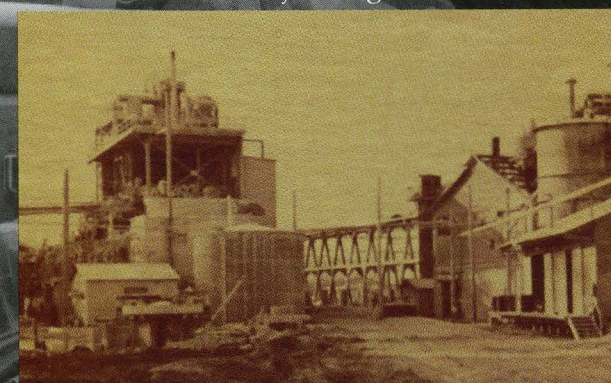
Although the formulation of specialty agricultural chemicals was discontinued, other areas of the plant continued to expand with the addition of larger dock facilities and a new Chemical Laboratory Building.

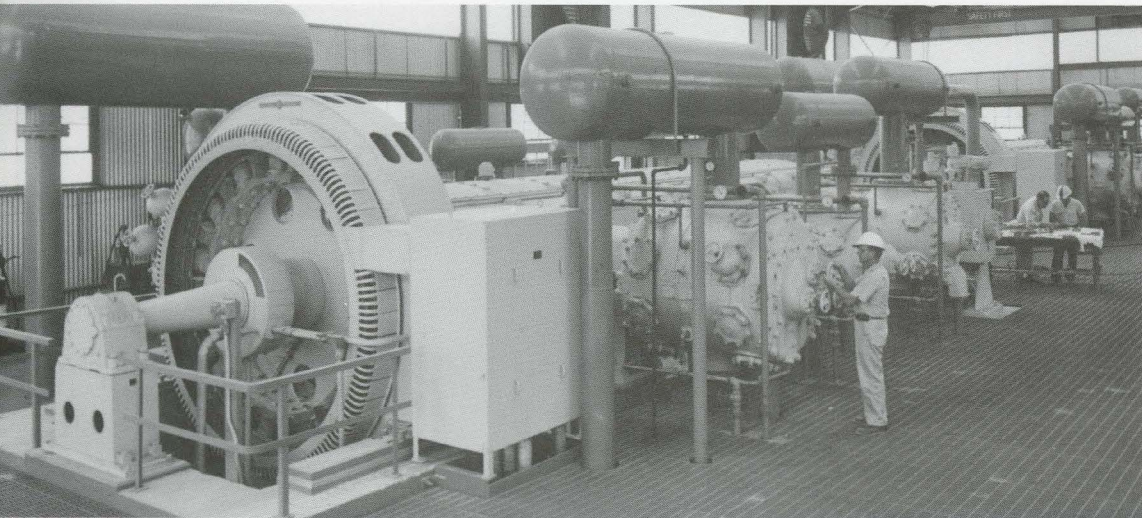
*Loading
Di-Mon, 1957*



*The No. 1 Di-Mon Building,
1959*

*Uranium Extraction Plant,
left background, 1957*



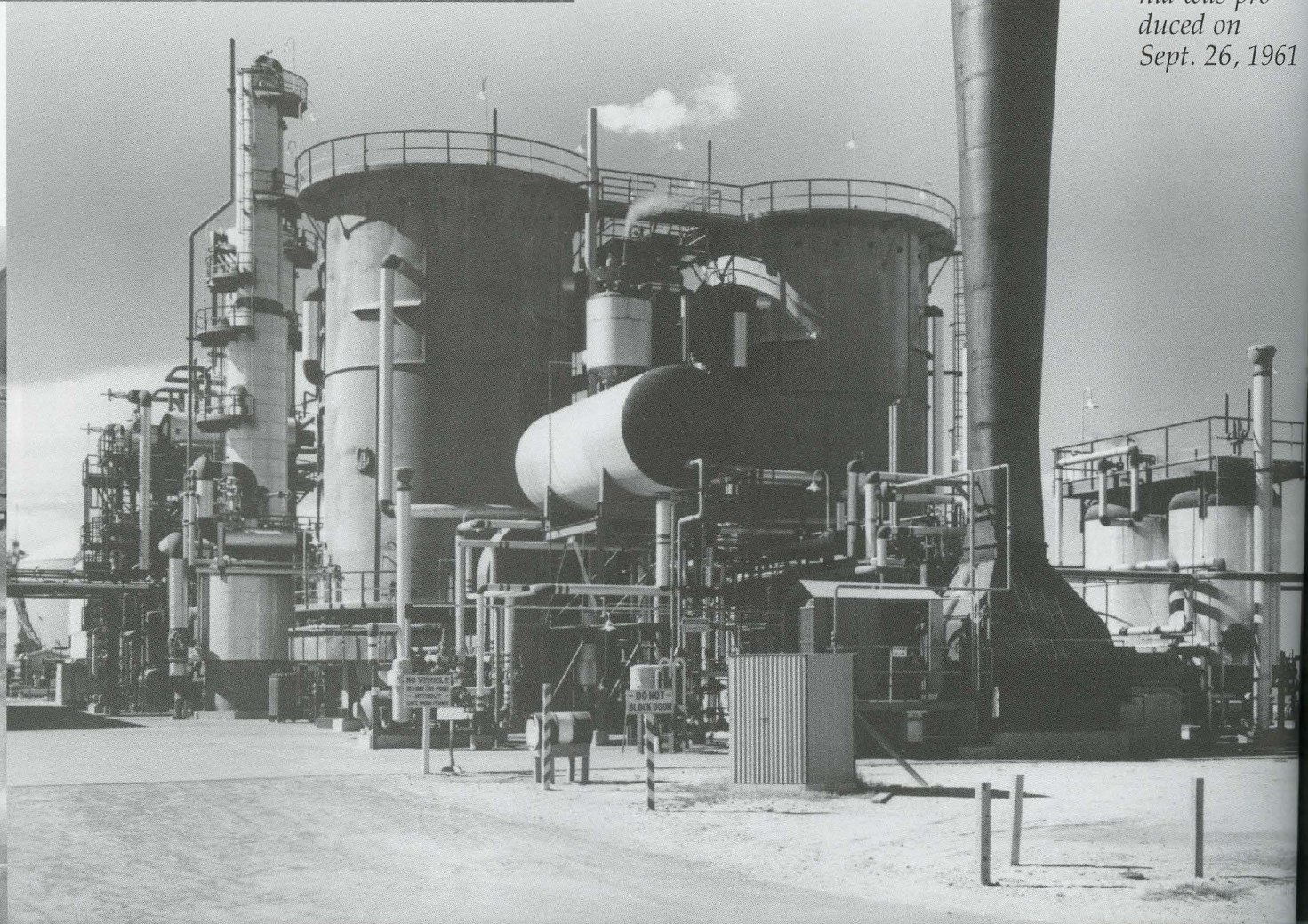


*Compressor Building for
Ammonia Plant, 1961*

*Installation of Liquid Separator
for Ammonia Plant, 1961*



16



*Ammonia
Plant, 1961.
The first ammo-
nia was pro-
duced on
Sept. 26, 1961*



"It is a rough road that leads to the heights of greatness." -Seneca

By the early 1960s, a general plant expansion was completed with the building of the No. 2 Phosphoric Acid Plant. An anhydrous ammonia plant—the largest of its kind in the world—was completed in 1961.

During the rest of the decade, change would rapidly spread

across America, accelerated by explosive political events and cultural experimentation. The company would continue to grow, but with a change in ownership and direction.

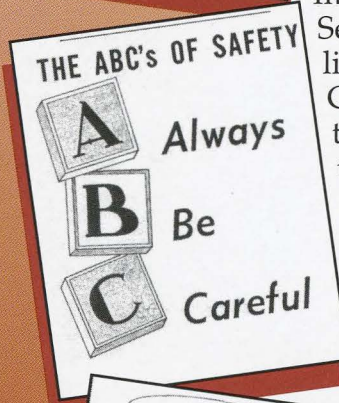
The first issue of the company newsletter in July 1965 announces a naming contest. The winning name—Phos Pholks—was submitted by Sarah E. Johnson, daughter of C.E. Johnson, Supervisor of Payroll at the time. Presumably Ms. Johnson won the transistor radio prize.

Phos Pholks highlighted - and continues to highlight - employees and their families, as well as developments in the plant and the industry at large. An ongoing concern of this plant, reflected in nearly every issue of Phos Pholks, is safety.

"Alert Actions Pay Off" (December 1965)

"Safety Glasses Save Electrician's Sight" (December 1968)

"Start Now with a Plan, and . . . Snuff Out Snafu" (August 1972)



Trials and Errors:

The 60s - 70s

The decade began tumultuously with the triumph of John Glenn's space flight and the tragedy of John F. Kennedy's assassination.

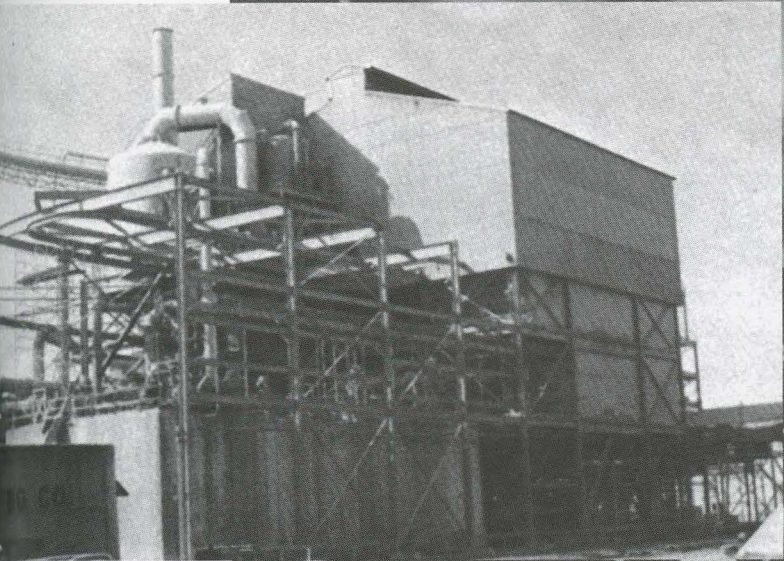
In the shadow of these events Cities Service Company acquired controlling interest in the Tennessee Corporation in 1962, followed by the latter corporation becoming a totally owned subsidiary. Cities Service was one of the first petroleum companies to enter the fertilizer business, a trend that would change the complexion of the industry.

Over the next few years the plant would continue to increase production of phosphoric acid (after a new Prayon Plant was completed in 1965) and sodium fluorosilicate. New Di Mon units and a new Sulfuric Acid Plant also came on-line. At the same time that production of existing products increased, new ones were being developed.

PHOSPHORIC ACID
From The Country's Largest And Most Dependable Source
Of Phosphate Products For High Analysis Formulation

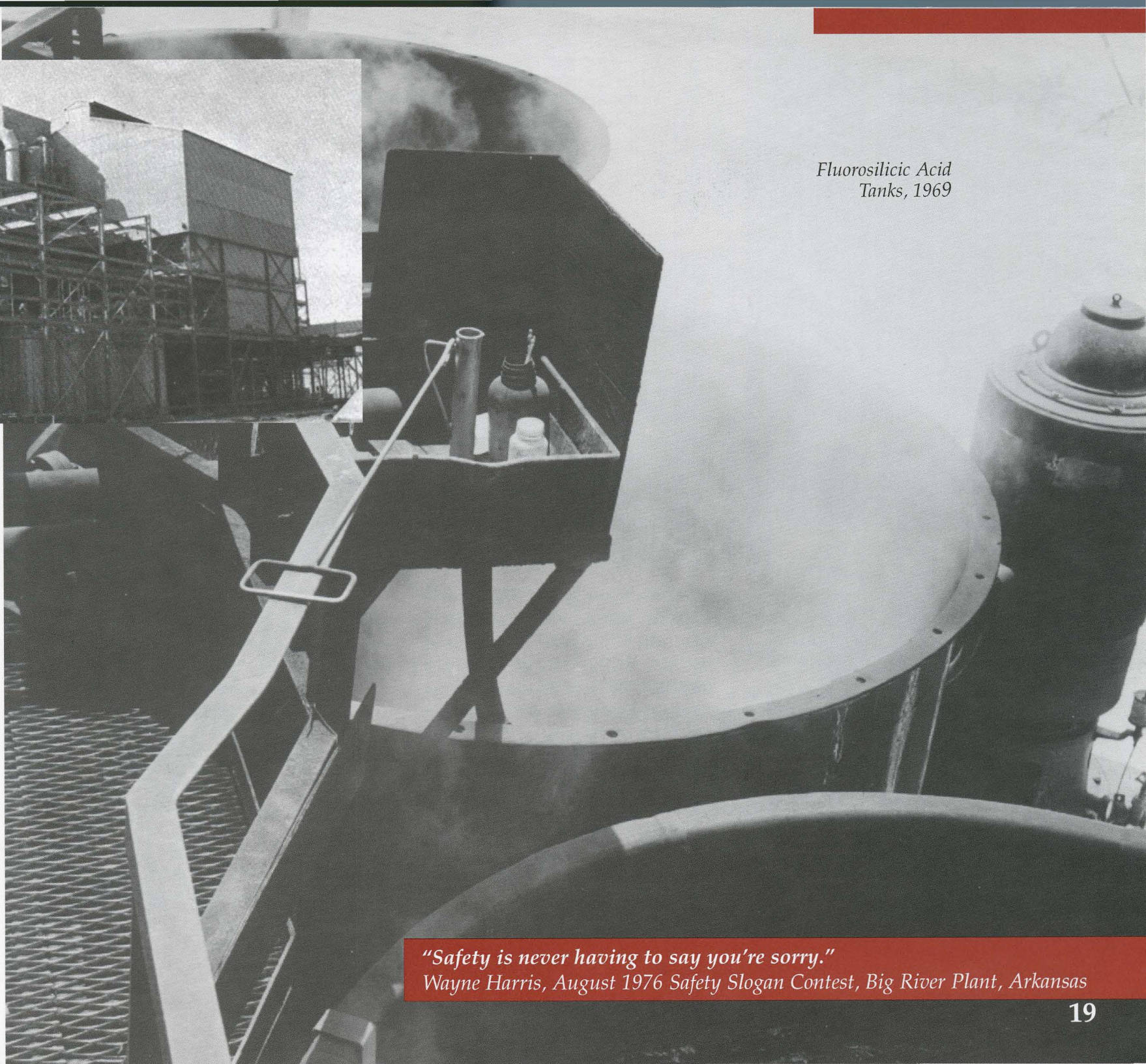
A companion product to USPP's famous
TRIPLE SUPERPHOSPHATE
RUN-OF-PILE
COARSE
GRANULAR
Also





*The new Prayon
phosphoric acid
plant, 1965*

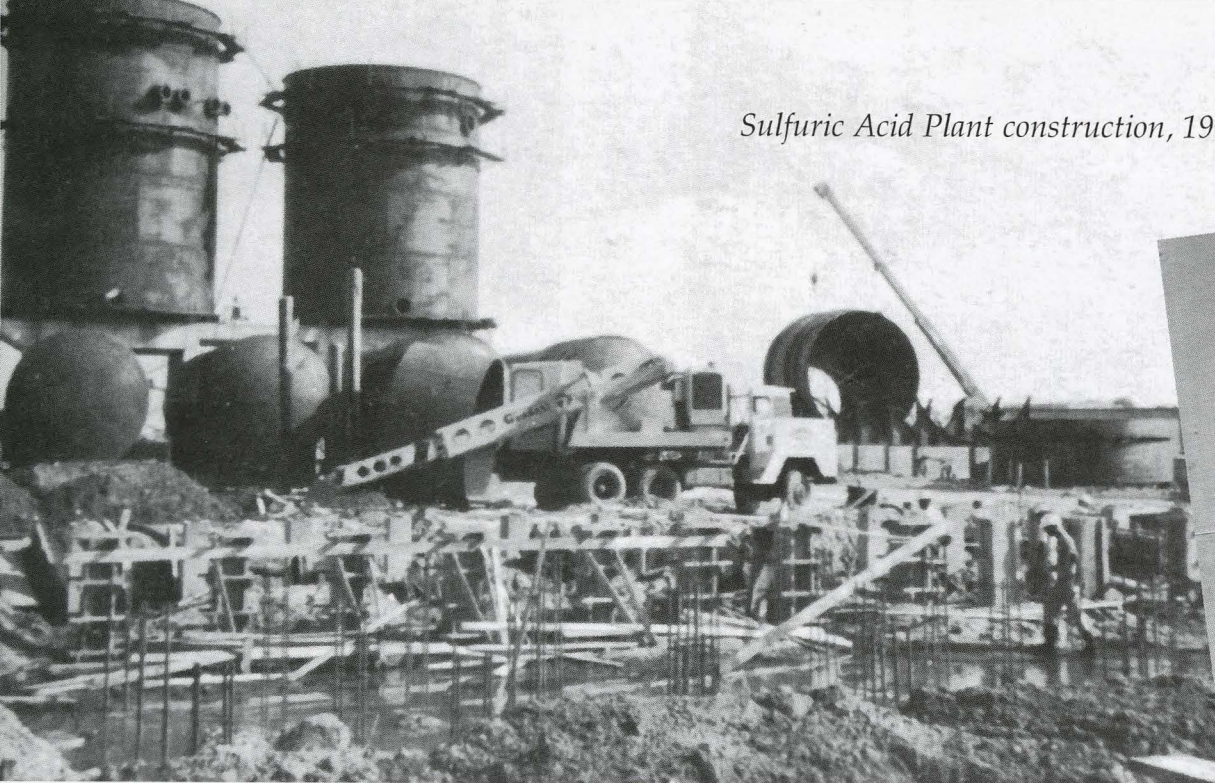
*Fluorosilicic Acid
Tanks, 1969*



"Safety is never having to say you're sorry."

Wayne Harris, August 1976 Safety Slogan Contest, Big River Plant, Arkansas

Sulfuric Acid Plant construction, 1965



IT'S THE TRUTH! . . .

ONE OF THE MAJOR PRODUCTS AT TACO IS **SULFURIC ACID** - WITHOUT WHICH MOST EMPLOYEES WOULD HAVE A HARD TIME GETTING TO WORK!

BESIDES ITS IMPORTANCE IN THE FERTILIZER INDUSTRY - IT IS ALSO USED IN MANUFACTURING METALS, PAINT, TEXTILES AND SYNTHETIC RUBBER - ALL OF WHICH ARE USED TO PRODUCE AUTOMOBILES.

AND IF THIS ISN'T ENOUGH - **SULFURIC ACID** IS ALSO NEEDED FOR BATTERIES AND IN THE REFINING OF PETROLEUM - ESPECIALLY IN THE PURIFICATION OF GASOLINE!

ABOUT 50% OF THE SULFURIC ACID PRODUCED IN THE U.S.A. COMES FROM HILLSBOROUGH AND POLK COUNTIES!

HILLSBOROUGH COUNTY
POLK COUNTY

"WHAT A CRAZY WORLD - WE CAN'T BUY A CAR TO GO TO WORK TO MAKE THE ACID NEEDED TO MAKE CARS!"

Monammonium phosphate under the trade name "Mon-A-Mon" (now called "MAP") was added in 1963. NPK—the only complete fertilizer ever produced here—was a nine-month test project in 1969.

By 1965, the plant was in the midst of a general modernization program.

But in addition to ongoing construction projects, the Tennessee Corporation organized the Agricultural Chemicals Division in order to develop new

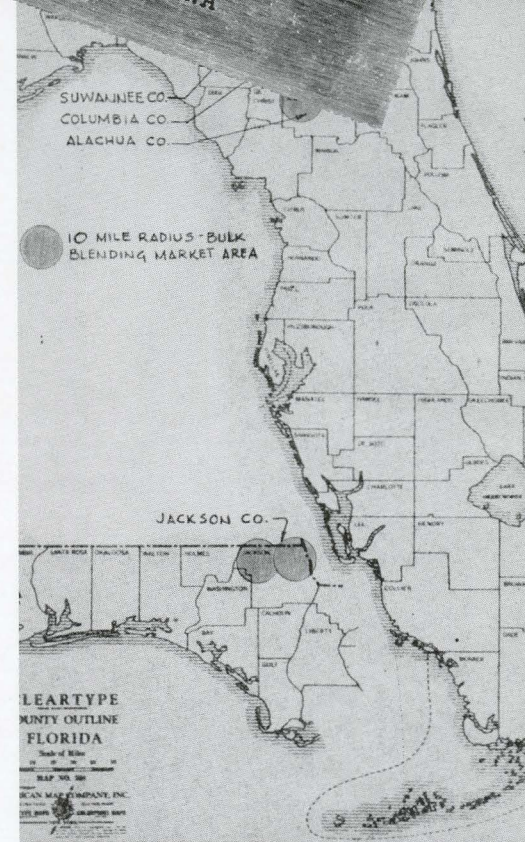
Tennessee Corporation
AGRICULTURAL CHEMICALS DIVISION
55 MARIETTA STREET, N.W. ATLANTA, GEORGIA
TELEPHONE (404) 577-8000
TWO EIGHT THREE
POST OFFICE BOX 8800
ATLANTA, GEORGIA 30307

PHOSPHATE PRODUCTS PRICE LIST
Subject To Change Without Notice

Effective	FOB Rail Cars East Tampa, Fla.	FOB Vessel E. Tampa/Tampa, Fla.
December 15, 1969		
Type of Material		
Bulk ROP Triple Superphosphate	50.82 per unit APA	50.87 per unit APA
Bulk Coarse Triple Superphosphate	0.85 per unit APA	0.90 per unit APA
Bulk Granular Triple Superphosphate	41.50 per net ton	43.80 per net ton
Bagged Granular Triple Superphosphate	47.50 per net ton	60.30 per net ton
Bulk Di-Mon (18-46-0)	58.00 per net ton	
Bagged Di-Mon (18-46-0)	64.00 per net ton	63.30 per net ton
Bulk Man-A-Mon (13-52-0)	61.00 per net ton	
Bagged Man-A-Mon (13-52-0)	67.00 per net ton	
Phosphatic Fertilizer Solution	0.95 per unit APA	
Effective March 1, 1970		
Type of Material		
Bulk ROP Triple Superphosphate	50.87 per unit APA	50.92 per unit APA
Bulk Coarse Triple Superphosphate	0.90 per unit APA	0.95 per unit APA
Bulk Granular Triple Superphosphate	44.25 per net ton	46.55 per net ton
Bagged Granular Triple Superphosphate	50.25 per net ton	64.30 per net ton
Bulk Di-Mon (18-46-0)	62.00 per net ton	
Bagged Di-Mon (18-46-0)	68.00 per net ton	
Bulk Man-A-Mon (13-52-0)	65.00 per net ton	
Bagged Man-A-Mon (13-52-0)	71.00 per net ton	
Phosphatic Fertilizer Solution		
(1) TERMS: (Subject to 2% discount)		

You think prices are bad now, we used to discount these back then. I remember CTSP down to \$2700 with terms. Spose you were making \$230 P/HR in the plant back then and happy as hell. I WAS,

Shed



Midwest bulk-blending plant, 1966

retail outlets. Over 150 outlets not only bulk-blended fertilizers, but analyzed soil, advised farmers, and even delivered the product. The company hoped to develop Farm Service Centers that would supply virtually all farming needs, but ultimately these centers did not prove profitable. When the plant was sold in 1973 to Gardinier, the new owners did not buy these assets.

Technology never stood still at the plant. By 1966, the company's lab was using an Atomic Spectrophotometer to determine the amount of calcium, aluminum, sodium, potassium,

silicon, iron, and magnesium in phosphate rock as well as finished products.

In this same year construction began on the Tennessee Corporation. (TENCOR) mine in Ft. Meade, approximately 60 miles east of Tampa. The mine began production in April 1967 and represented the company's largest capital investment.

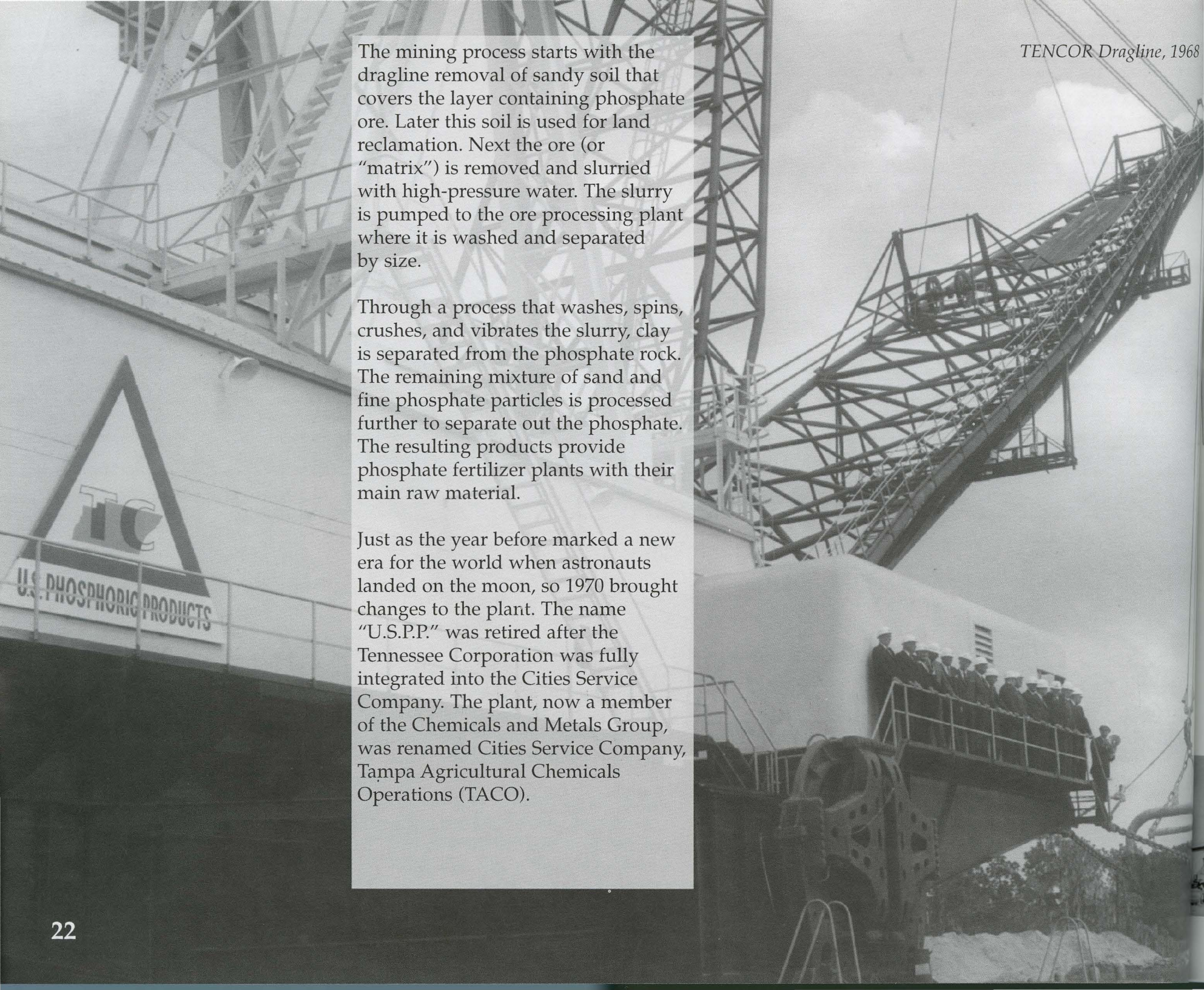
Fertilizer production begins with a mining operation: without mining, the phosphate fertilizer industry would not exist.

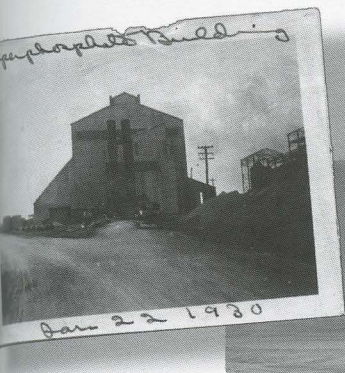
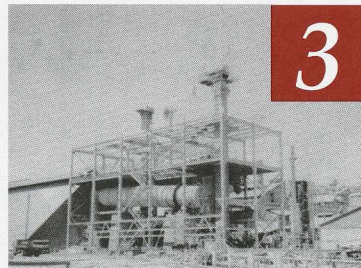
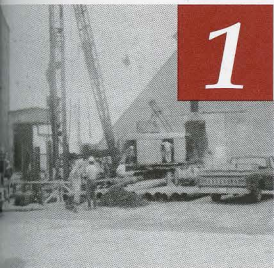
Custom Farm Services was not the only example of new marketing strategies, as this August, 1968 survey map demonstrates. Here U.S.P.P. investigates new blending sites for its NPK fertilizer.

The mining process starts with the dragline removal of sandy soil that covers the layer containing phosphate ore. Later this soil is used for land reclamation. Next the ore (or "matrix") is removed and slurried with high-pressure water. The slurry is pumped to the ore processing plant where it is washed and separated by size.

Through a process that washes, spins, crushes, and vibrates the slurry, clay is separated from the phosphate rock. The remaining mixture of sand and fine phosphate particles is processed further to separate out the phosphate. The resulting products provide phosphate fertilizer plants with their main raw material.

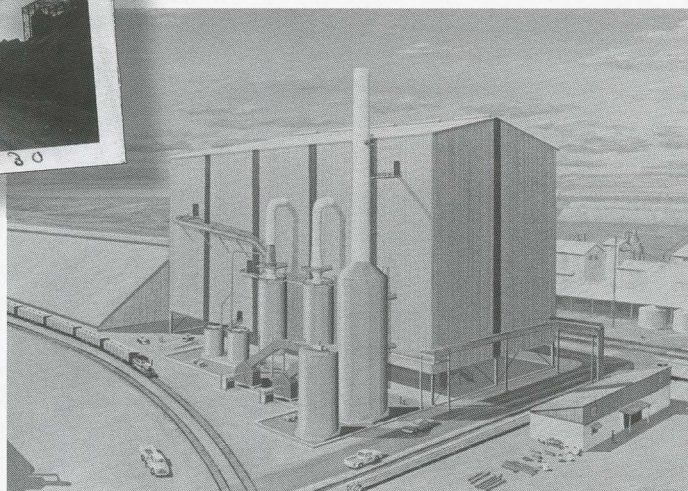
Just as the year before marked a new era for the world when astronauts landed on the moon, so 1970 brought changes to the plant. The name "U.S.P.P." was retired after the Tennessee Corporation was fully integrated into the Cities Service Company. The plant, now a member of the Chemicals and Metals Group, was renamed Cities Service Company, Tampa Agricultural Chemicals Operations (TACO).





The Building Of A Plant

Plans for the new granular triple superphosphate plant were presented in September 1971. Construction began in December 1971 and was completed by August 1972.



1. The facility was designed and built by Wellman Power-Gas, Inc. The first piles were driven on December 9, 1971.

2. By January 28, 1972 the base section of the bottom floor foundation, and the dryer and cooler bases had been poured.

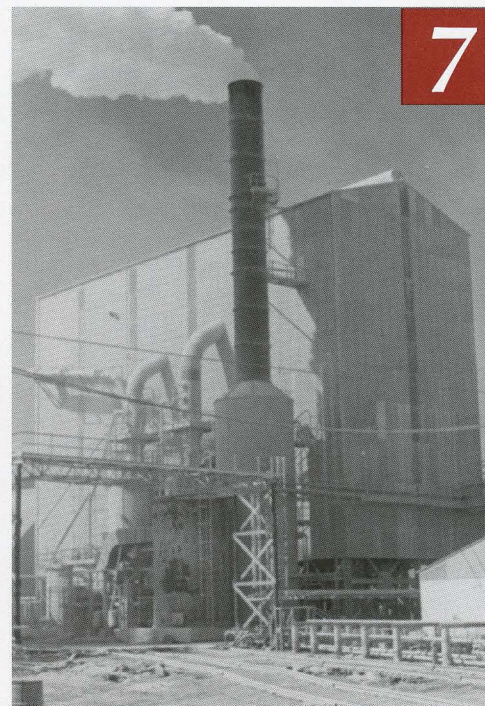
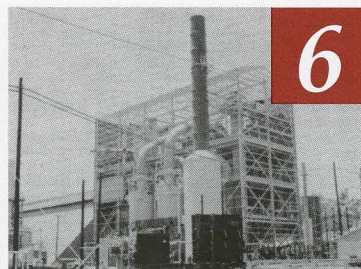
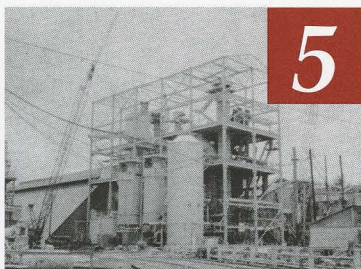
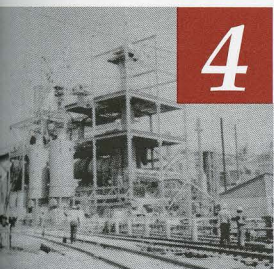
3. The steel beam structure was in place by April 3, 1972. In addition, the bucket elevators and the dryer had been installed.

4. By April 19, 1972 the two primary scrubbers (left center of picture) had been installed. These scrubbers will not only improve product recovery, but also will produce completely reclaimable scrubber water.

5. The tailgas scrubber (center of picture) is ready by May 11, 1972. The plant is now 109 feet tall.

7. By June 14, 1972 the fiberglass stack for the tail gas scrubber is in place, the north and west walls have been covered, and cooler and gas ducts have been added to the primary scrubbers.

7. The plant, one year after its start-up on August 15, 1972, is designed to produce 50 tons per hour, 350,000 tons per year. The facility is the largest single-train granular triple superphosphate plant in the world at this time.



Along with continuing expansion and modernization a new GTSP Plant—the largest in the world at the time—was built. The company took a major step on March 23, 1973 when both the plant and the Ft. Meade mine were purchased by the French firm Societe des Participations Gardinier (SOPAG), which was owned by the Gardinier family. In addition to wine production, the Gardiniers already were in the fertilizer business.

By December of the same year, Gardinier announced completion of a \$7.5 million Pollution Abatement Program that was begun in 1970.

Besides fertilizer and mining operations, Gardinier acquired 160 acres surrounding Lithia Springs. Originally purchased in 1937 as a fresh water source, it was leased to Hillsborough County in 1957 for one dollar per year.



The plant was renamed "Gardinier Inc.—U.S. Phosphoric Products": lots of employees were happy to regain the U.S.P.P. designation under which they had worked for so many years.

These Prayon Plant Swenson Evaporators (far right) were part of the Pollution Abatement Program improvements.



Lithia Springs in 1974



Lithia Springs continued to grow in popularity after a new lease was signed with the county in 1972. This partnership between Hillsborough County and the company continues to date. In 1974, Gardinier implemented an innovative exchange program in which a group of employees traveled to Gardinier facilities in France, while their French counterparts visited the East Tampa facilities. On April 11 of the same year, the company bought the Big River fertilizer plant from Arkansas-Louisiana Gas Company. The plant was sold in 1977.



Lithia Springs today.

Wet Rock Stacker, February 1973



By the middle of the decade, increasing environmental regulation began to shift the phosphate fertilizer industry toward technology that was not only efficient, but environmentally responsible as well. For example, the new sulfuric acid plant completed in 1976 would not only be the largest plant operating (at a rate of 2,400 tons per day), but would also be built with the new double absorption process to significantly reduce stack emissions.

Rock Silos and railroad cars loading, February 1973




On February 19, 1973, the company donated 1 3/4 acres in Hillsborough County for a library on the River.



Dragline, February 1973

The first group of Gardinier Inc.—U.S.P.P. employees visits Versailles





Human successes, like human failures, are composed of one action at a time and achieved by one person at a time. -Patsy H. Sampson

The mining aspect of the business moved in the same direction when Florida's 1975 Mandatory Reclamation Act required that mined land be reclaimed. Operations remained constant at the plant during the final years of the decade, even though the foreign and domestic scenes were full of surprises. The normalization of relations between the United States and China, a peace treaty between Israel and Egypt, gasoline shortages, and spiraling inflation were as surprising as the recent stock market crash and the fall of the Berlin Wall are now. Rapid change for the plant would wait until the beginning of the next decade.

The plant's deep water docks in 1976

Expansion, Contraction, Expansion: The 80s - 90s

Between 1981 and 1983, Gardinier embarked on a \$100-million expansion—the largest in the company's history. New facilities such as the DORRCO Phosphoric Acid Plant, the No. 5 DAP Plant, and the Wet Rock Mills and storage area were built, while others such as the No. 7 Acid Plant were expanded. Because of this program, the plant could produce up to 45 percent more finished product. The company also closed the uranium recovery plant that operated from 1979–1982.

Unfortunately, a series of events placed Gardinier in a precarious financial situation. During the early 1980s, the Gardinier family diversified into a number of areas, including oil, gas, citrus groves and hotels. Along with the strain caused by the need to finance the plant expansion, the company was unprepared for a major tumble in the phosphate market of 1983. Propelled into bankruptcy in February 1985, the plant changed

hands for the last time when Cargill Incorporated acquired Gardinier in December 1985. Yet even during the rockiest moments of the bankruptcy, the plant never shut down.

With the acquisition of Gardinier by Cargill—a Minneapolis-based agribusiness corporation that so far has invested more than \$125 million in capital improvements—the plant was able to complete one vital project and start another. The existing gypsum storage area was closed and capped, and a new storage area was designed, constructed and began operating.

Gypsum, a byproduct of phosphate fertilizer production, is transported to a storage field (called a stack) in a slurry containing process water that is acidic. The gypsum stack closure included transferring the process water that collects atop the stack to a recirculation system. Then, the top surface was filled, graded and capped with a high-density polyethylene liner and covered with topsoil that was planted in grasses.

Closed Gypsum Stack, 1990

In 1990, Cargill set two precedents within the U.S. phosphate fertilizer industry. It became the first company in the United States to successfully close and cap a gypsum stack, and it also was the first to build and start up a new stack designed to include the best proven technology to protect the environment.

The new stack began with a foundation composed of a double liner. Above the liner a collection system recirculates the process water back to the plant for additional productive uses. A series of monitors also surround the new stack to ensure that air, groundwater and surface water quality are maintained. Like the closed stack, the new one will be seeded in grasses as it grows.

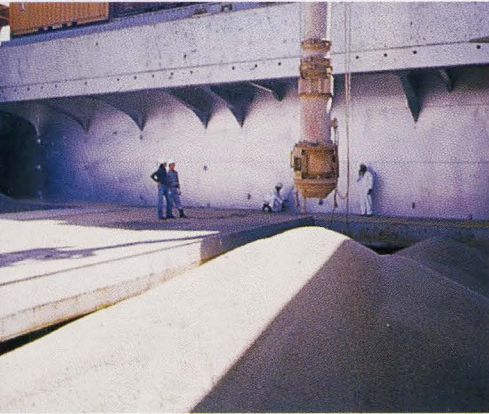
"The closing of the existing gypsum storage area, restoration of the Tampa Bay shoreline and the opening of an environmentally engineered new stack mark the end of one era in the phosphate industry and the beginning of a new one."

-Fritz Corrigan, President of Cargill's worldwide fertilizer business (1986-present)



New Gypsum Stack, 1990

Efficiency and environmental safety not only can, but must, go hand-in-hand. The company has invested in technology that fulfills both requirements. For example, the covered conveyor system and the choke feeder for loading ships both are designed to minimize dust. Thus they are efficient and environmentally responsible.



Choke Feeder

Conveyor System



In 1987, conservation and energy use efforts came together at the Tampa facility when the co-generation facility was built. Co-generation refers to electricity generated from manufacturing processes. In our case, the power is derived from turbines driven by steam created in our manufacture of sulfuric acid, which is passed through crushed phosphate rock to produce phosphoric acid—the basis of phosphate fertilizers.

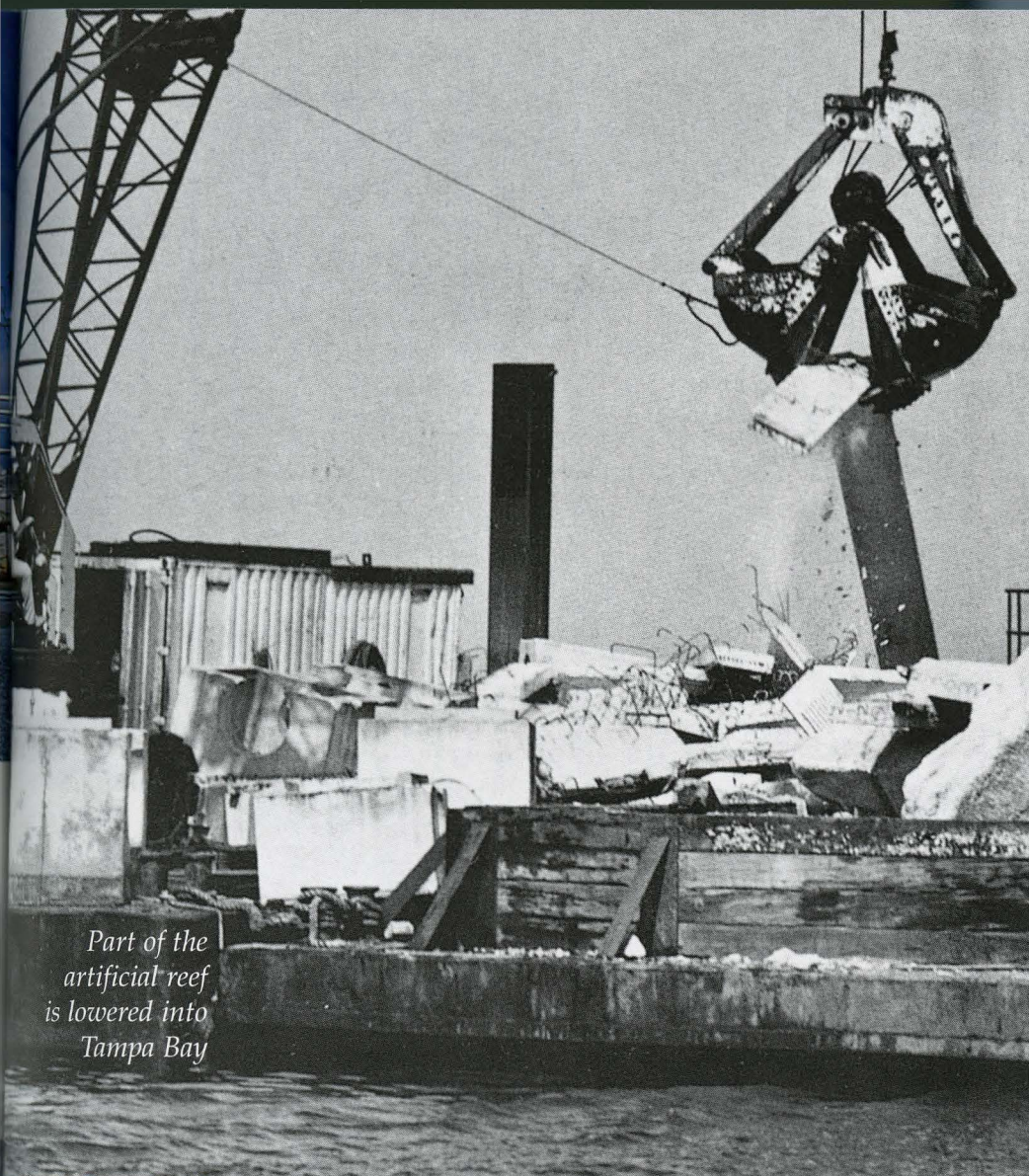
Co-generation allows the plant to supply 100 percent of its own power needs, and even supply power to Tampa Electric Company (TECO) during peak demand periods. In fact, during a particularly cold holiday weekend in December 1989, the plant supplied electricity to TECO for 2,630 homes.

On April 30, 1988 liquid fertilizer accidentally overflowed from a storage tank into a concrete containment basin, and from there to surrounding grounds and culverts. By May 3, it was determined that some fertilizer had reached the Alafia River. Though there was an initial fish kill, neither the vegetation nor bird population were adversely affected. Within two weeks, all physical traces of the incident were gone.

The company responded to the spill by broadening its lines of communication with government regulators and the community, speeding up its environmental-protection timetable, and negotiating to complete environmental enhancement projects in the surrounding community.

Co-generation Plant

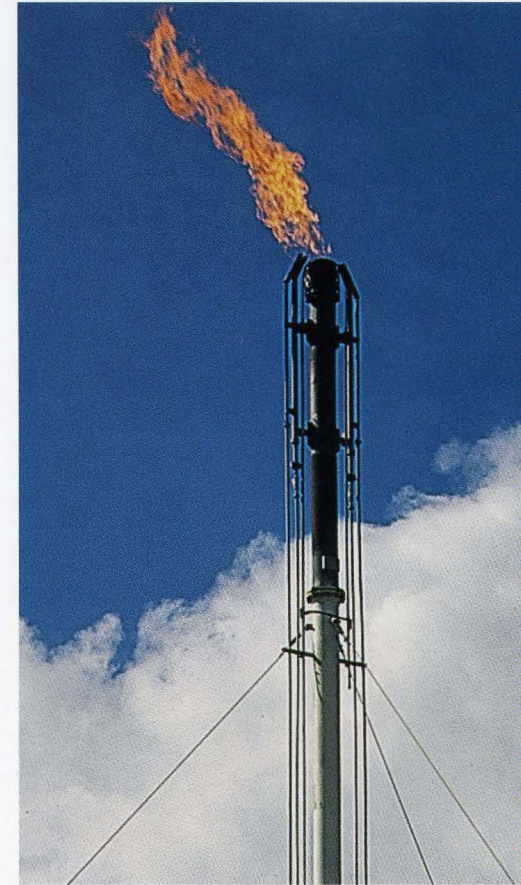




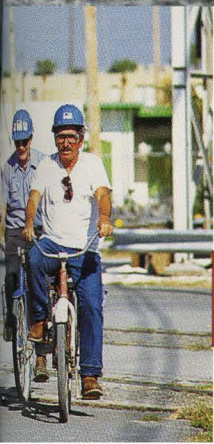
Part of the artificial reef is lowered into Tampa Bay

For example, to satisfy an agreement with Hillsborough County an artificial reef was built 1.8 nautical miles from Mangrove Point, north of Bahia Beach.

The company also placed \$1.5 million in a pollution recovery trust fund for projects in Tampa Bay, particularly those close to the Alafia River. In addition, a private-public partnership was initiated in order to restore the original configuration of Delaney Creek so that it was once again a natural tidal stream.



Sometimes livability drives the application of technology. In 1989 an ammonia flare system was installed to rid fertilizer plant areas of ammonia odors. A flare system also was installed at the Bartow manufacturing facility, acquired in 1993.

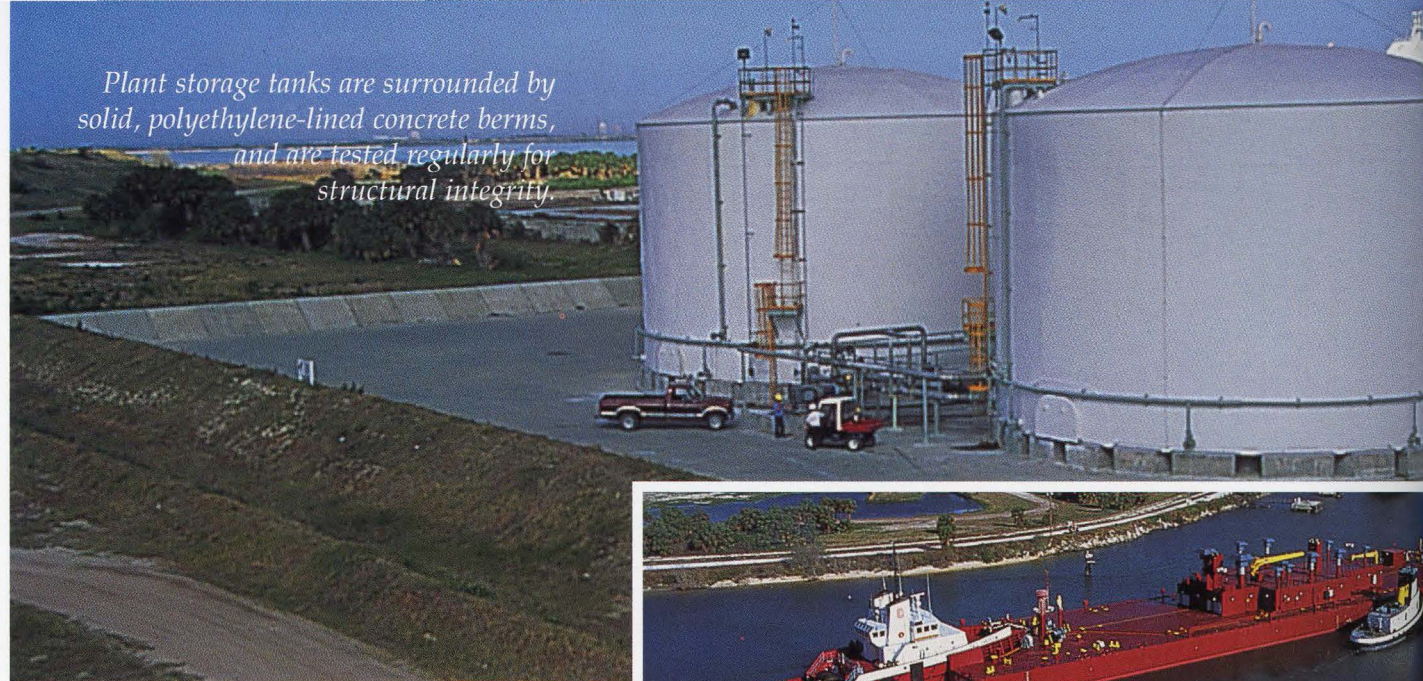


Bicycles are a common sight around the plant complex.

Restore human legs as a means of travel. [They] rely on food for fuel and need no special parking facilities.
-Lewis Munford, sociologist and critic



Cargill Fertilizer received the 1991 "Outstanding Co-Op Employer of the Year Award" presented by the University of South Florida as part of a cooperative program between higher education and business reaching back to 1971. But co-op student employees were not uncommon before this, as this 1964 photograph attests.



Plant storage tanks are surrounded by solid, polyethylene-lined concrete berms, and are tested regularly for structural integrity.

In 1989, work began on the company's first molten sulfur barge for transport of sulfur from Louisiana, Mississippi, Texas, and Mexican ports to the Tampa plant. The barge was designed to provide triple protection against leaks. Christened on January 24, 1991, the "Alafia" had transported over two million long tons of sulfur to Tampa by its 100th voyage on February 4, 1994.

In 1991, the name "Gardiner, Inc." was changed to "Cargill Fertilizer, Inc.," signaling a closer alignment between the Tampa company and Cargill, Incorporated, its owner.



Cargill's sulfur barge, the "Alafia"

Phos Pholks
Cargill Fertilizer, Inc. - Tampa, FL
Spring-Summer 1991
Fl. Meade Mine - Ft. Meade, FL

It's Official!
Effective March 1, 1991, Gardiner, Inc. announced its new name:
CARGILL FERTILIZER, INC.

Employee Quality Improvement Process Training Under Way
The company's new...
impro...

Company Celebrates at Open House Events



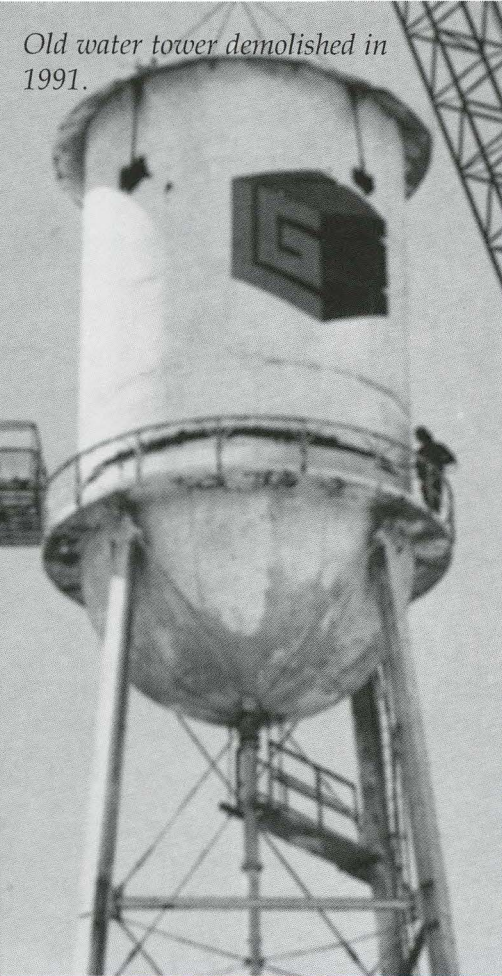
Reclamation was integrated into the operations in 1975. More than 3,000 acres of mined land throughout Polk and Hardee counties are now home to citrus groves, wetlands, lakes and cropland. While some reclaimed areas are leased for cattle grazing, more than 5,000 additional acres are leased for this purpose on land reserved for future mining.



The Grove and Land Management Office was formed in 1990 to manage existing agricultural holdings as well as develop new agricultural businesses on reclaimed and mine reserve land where economically and ecologically feasible. Based in Hardee County, the office oversees products such as citrus, sod, alfalfa and blueberries.

This is a young citrus grove on reclaimed land at the Ft. Meade mine in 1989. Groves such as this one produce an average of 200 boxes of fruit per acre. Mature groves will yield up to 375 boxes of fruit per acre.



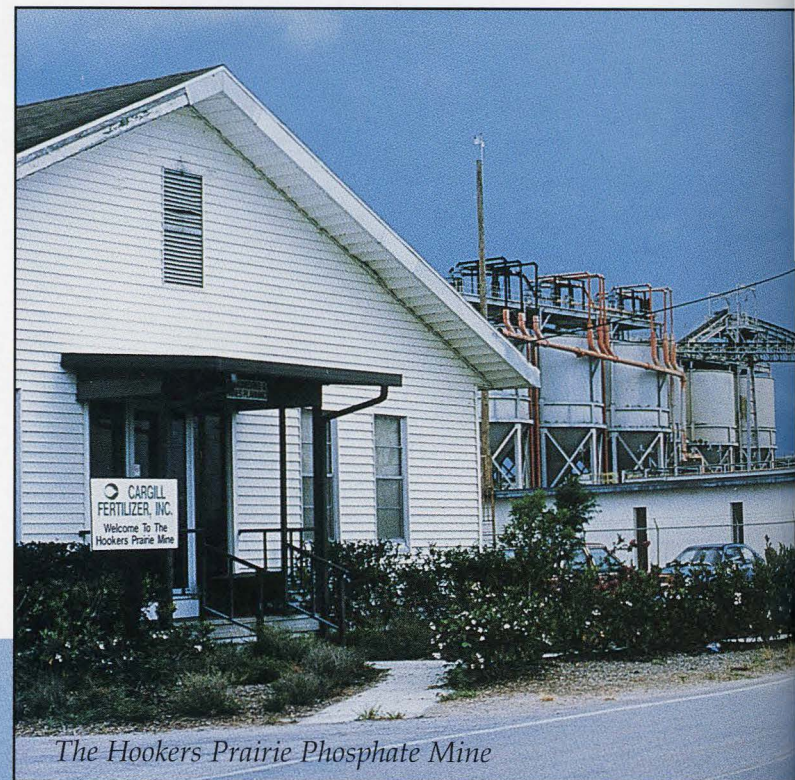


Old water tower demolished in 1991.

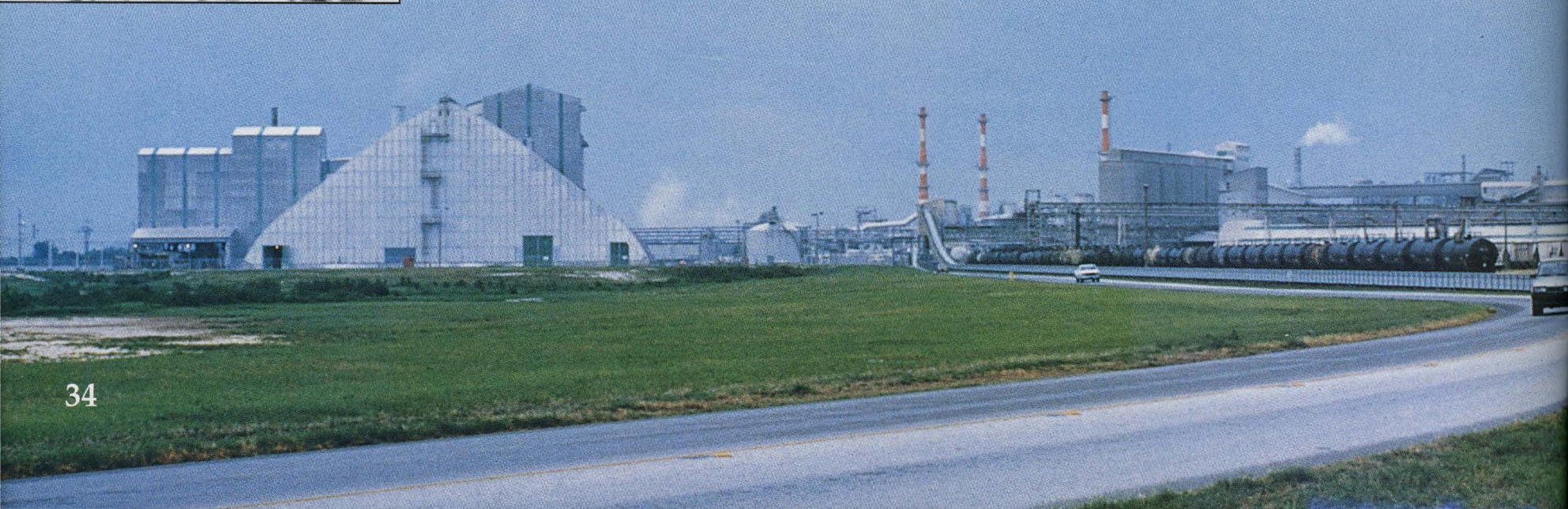
In the first few years of Cargill's ownership, demolition of old and unused facilities—such as the water tower erected in 1953—continued.

Two major events occurred in the next two years. In 1992, Cargill began mining operations in Hardee County using one of the Ft. Meade mine draglines. In less than two months, 600,000 cubic yards of phosphate matrix had been transported to the Ft. Meade mine operation for initial processing.

The Bartow Facility



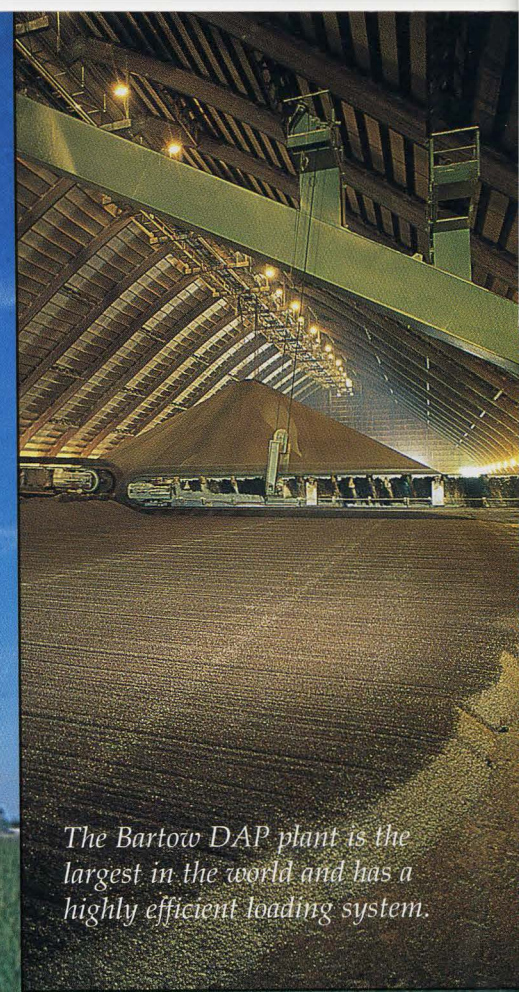
The Hookers Prairie Phosphate Mine





The preparations for mining required many years of environmental studies, public hearings and governmental approval at several levels.

The phosphate industry slumped in 1993: exports fell when China, India and the Soviet Union either cut or halted their imports. In the United States, farm belt flooding reduced fertilizer sales. Because of inevitable economic repositioning throughout the industry, surviving companies needed strong financial resources. This positioned Cargill to purchase the production and mining facilities of Seminole Fertilizer on May 4, 1993, including the production plant near Bartow and the Hookers Prairie phosphate mine.



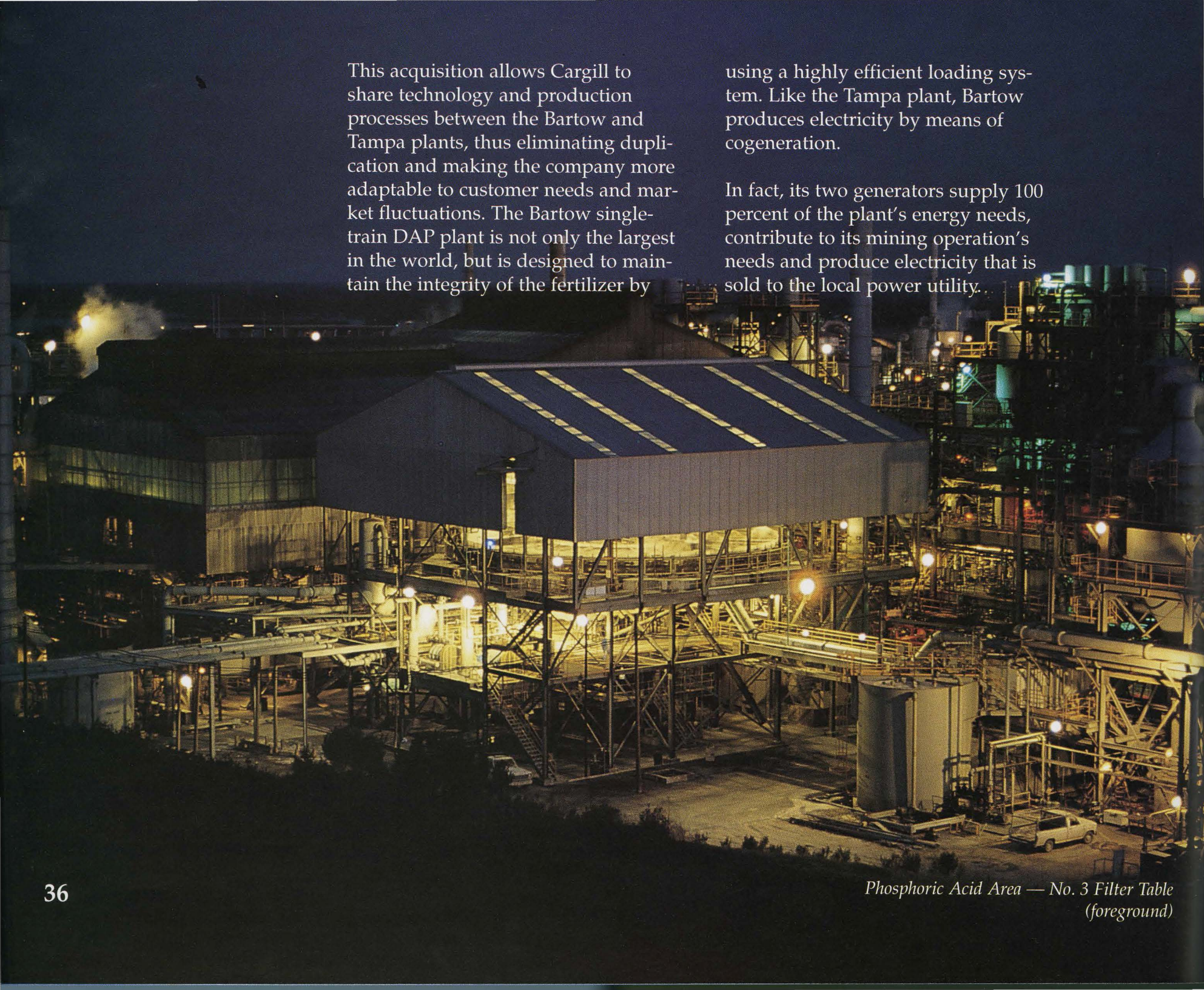
The Bartow DAP plant is the largest in the world and has a highly efficient loading system.

*Sawgrass Reclamation,
Hookers Prairie Mine*

This acquisition allows Cargill to share technology and production processes between the Bartow and Tampa plants, thus eliminating duplication and making the company more adaptable to customer needs and market fluctuations. The Bartow single-train DAP plant is not only the largest in the world, but is designed to maintain the integrity of the fertilizer by

using a highly efficient loading system. Like the Tampa plant, Bartow produces electricity by means of cogeneration.

In fact, its two generators supply 100 percent of the plant's energy needs, contribute to its mining operation's needs and produce electricity that is sold to the local power utility.





Children learn about Florida geology while fossil hunting at the Ft. Meade mine.

This anniversary in 1994 does not commemorate the history of a plant, if by this one means buildings and machines. Instead, it celebrates a living business that reaches inside to its employees and outside to its community.

March 12, 1936

Mr Rambo opened the meeting and explained the purpose of the Credit Union - a temporary Chairman - and R. Singbush was irronimously elected a temporary Secretary was nominated and L.D. Patterson was unanimously elected next was voting on 5 Directors, and nominations were as follows:

Ralph Hackney	W. L. Stensland	J.P. Rice
Ben Yergin	W.A. Chapman, Jr.	Wm. J. Jones
B.P. Burrell	H.J. Colman	J.H. Brown
L.D. Patterson	R. Singbush	C.A. Wella
Don Grever		

The Chairman made a statement asking for objections as to all present voting. There being no objections, it was ruled that all present could vote.

Next was voting on Directors, and the following were declared elected:

R. Singbush	J.P. Rice
Wm. J. Jones	H.J. Colman

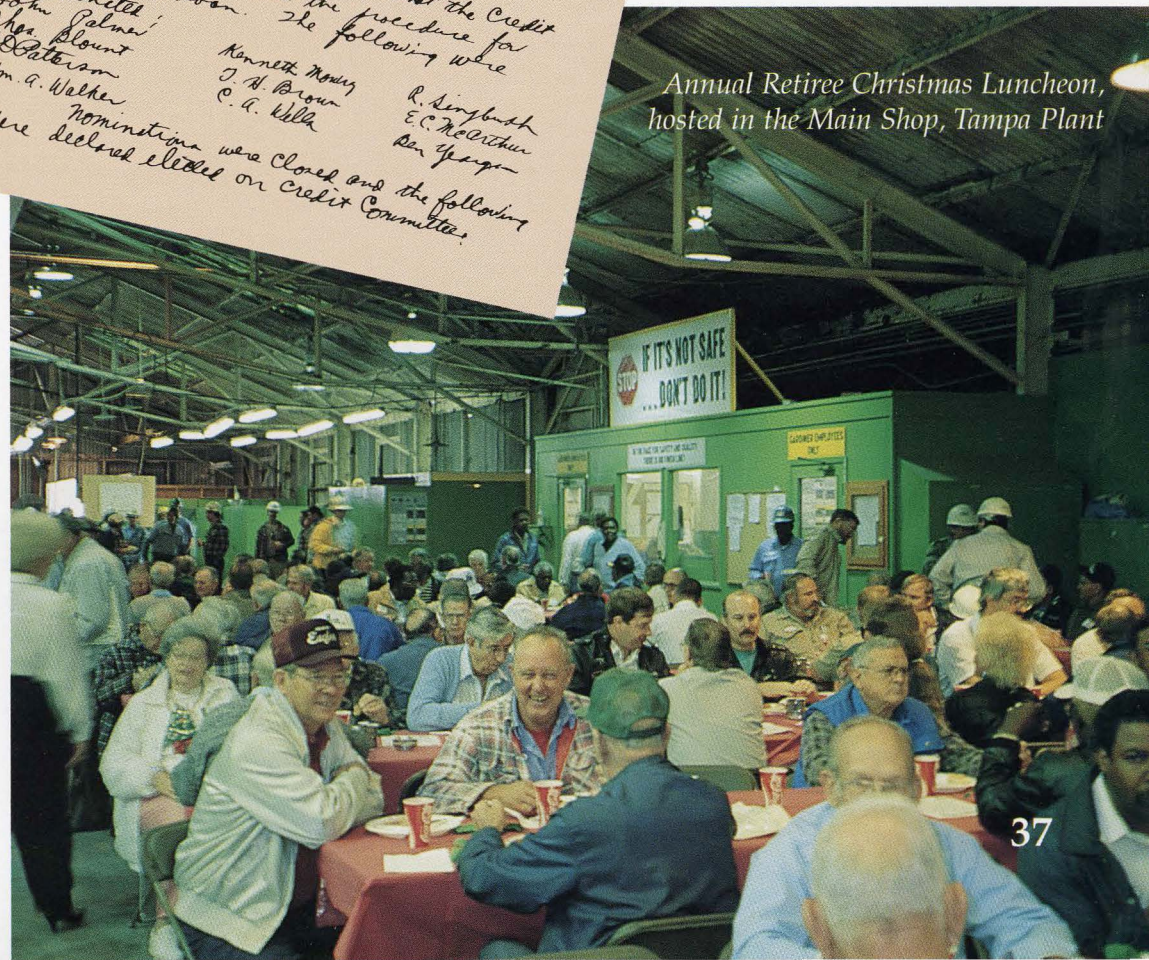
Mr. Rambo explained what the Credit Committee was for, and the procedure for obtaining a loan. The following were nominated:

John Palmer	Kenneth Housley	R. Singbush
Chas. Blount	J.H. Brown	E.C. McArthur
L.D. Patterson	C.A. Wella	Ben Yergin
Wm. A. Walker		

Nominations were closed and the following were declared elected on Credit Committee:

An employee credit union has been popular since 1936, when the U.S. Phosphoric Products Employees Credit Union opened with a reserve of \$540.61. Today, the renamed Chemical & Industrial Federal Credit Union has a reserve of \$10 million.

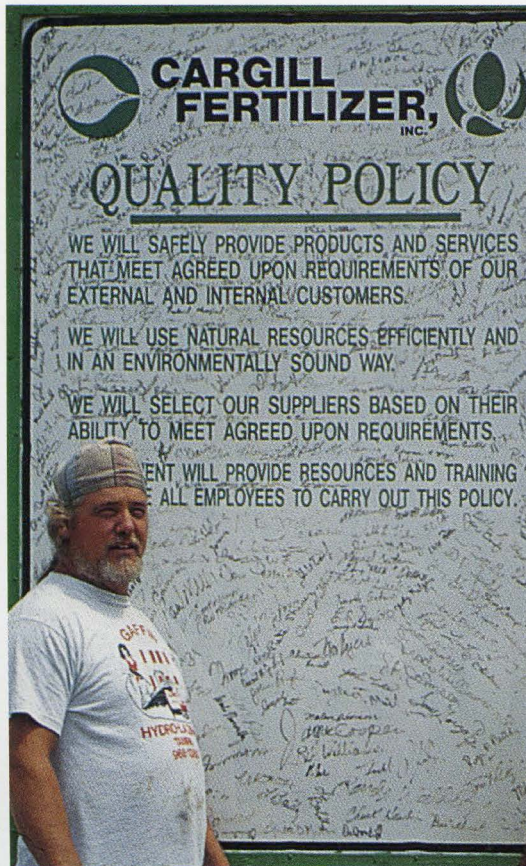
Annual Retiree Christmas Luncheon, hosted in the Main Shop, Tampa Plant

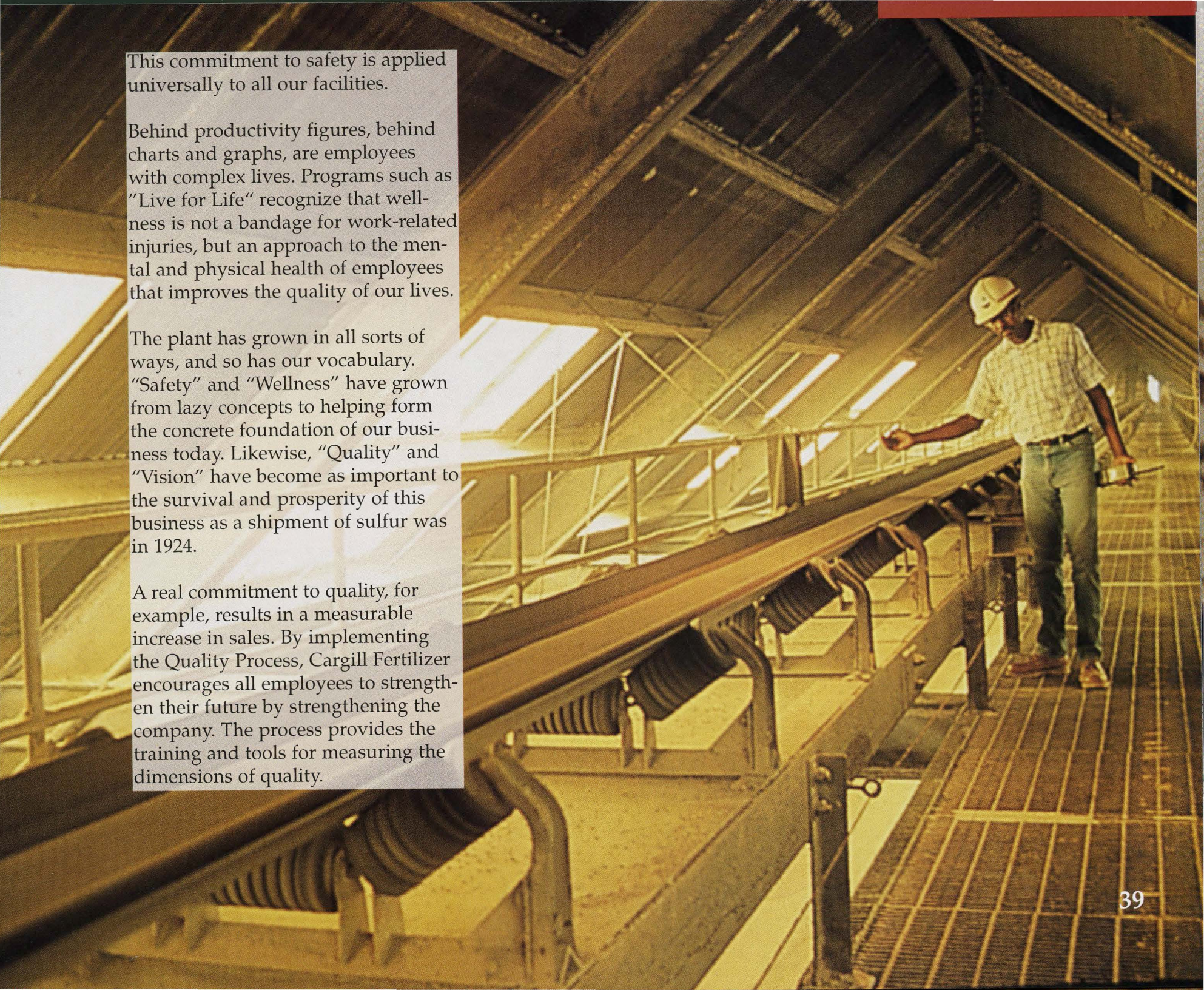




Cargill Fertilizer has won recognition—such as Cargill Incorporated’s President’s Gold Award—for safety performance. Achievement in safe work hours translates into real people not hurt, lives protected.

The first employee union was organized at the East Tampa plant in 1944 as the U.S.P.P. Employee’s Association. The group became affiliated with the International Chemical Workers Union (ICWU) and was chartered in 1951 as Local Chapter 439—which is still active today. ICWU local chapters also cover employees at the Bartow manufacturing plant and Hookers Prairie and Ft. Meade mines.





This commitment to safety is applied universally to all our facilities.

Behind productivity figures, behind charts and graphs, are employees with complex lives. Programs such as "Live for Life" recognize that wellness is not a bandage for work-related injuries, but an approach to the mental and physical health of employees that improves the quality of our lives.

The plant has grown in all sorts of ways, and so has our vocabulary. "Safety" and "Wellness" have grown from lazy concepts to helping form the concrete foundation of our business today. Likewise, "Quality" and "Vision" have become as important to the survival and prosperity of this business as a shipment of sulfur was in 1924.

A real commitment to quality, for example, results in a measurable increase in sales. By implementing the Quality Process, Cargill Fertilizer encourages all employees to strengthen their future by strengthening the company. The process provides the training and tools for measuring the dimensions of quality.



Left: Participant at the Alafia River Catfish Tournament. Above: Employees stage a puppet show at a local elementary school that teaches students farm safety. Below: Company volunteers work at a United Way agency during a "Day of Caring."



To implement the Quality Process, several teams of employees from all areas of Cargill Fertilizer work together to develop ways to spot, measure and correct anything that interferes with quality. Constant training and education ensure that the process is integrated into the company's daily business. This results in better products and more reliable supplies as well as a continued commitment to the community and the environment.

Just as we recognize that people, not machines or processes, make a business function, so should we recognize that "community outreach" is a matter of living as neighbors. Environmental initiatives from "Adopt-a-Shore" cleanup to the groundbreaking of the South Parcel restoration project are undertaken because the plant already is part of the community. Its actions affect all who live here: employees or neighbors—humans and animals, plants, fish or fowl.


An expanded sense of community means that it is natural for this company to invest in grants and scholarships to local schools, to participate in local and national charity campaigns, and to provide community resource grants.



Cargill's stormwater ponds, created to purify rainwater runoff, provide a rich habitat for roseate spoonbills and other water fowl.



The logo on this tank was created by employees and appears throughout the Tampa Plant.



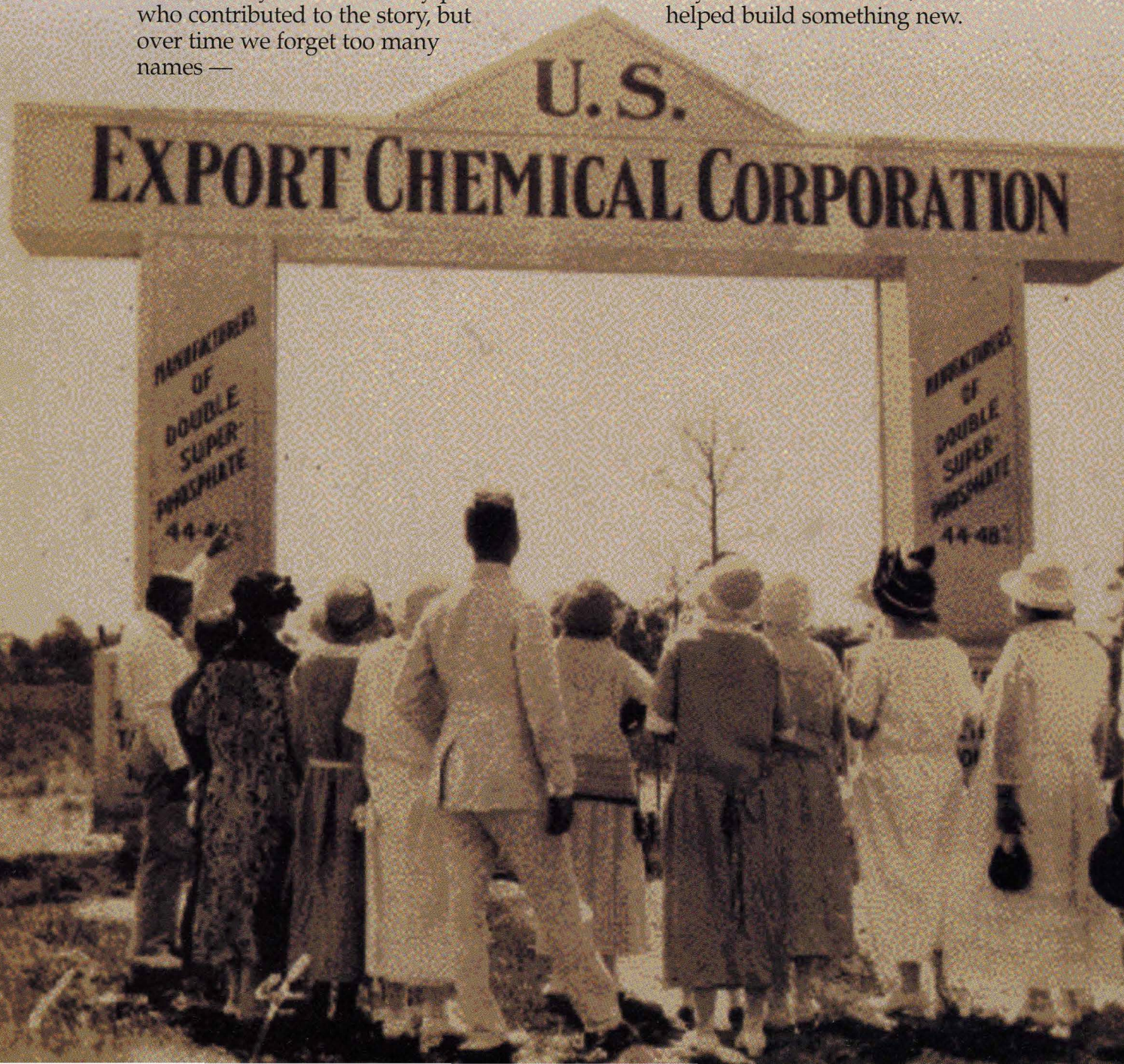
The next chapter of this company's history will measure how it met today's challenges. For example, Cargill Fertilizer's conservation efforts include a waste-minimization program that recycles manufacturing residue, as well as oil, paper and aluminum cans. As part of an industry-wide concern with water conservation, Cargill Fertilizer drastically reduced its fresh water use by capturing rainfall and process water and recirculating through fertilizer manufacturing operations. For the future, the company is working with local government and regulatory agencies

to use water from a local treatment facility at the Tampa plant.

Cargill Fertilizer also will support research into new uses for gypsum, and develop new services and products for customers. In addition to producing DAP, MAP, GTSP, and sodium fluorosilicate, the company will launch a new business when it begins manufacturing animal feed additives. Yet the next chapter will not be complete without maintaining and creating partnerships with governments, schools, community and the environment.

This anniversary commemorates no ending: the plant works, the community works, people work. It would be nice if this history could list every person who contributed to the story, but over time we forget too many names —

names of those who came to work each day. This business stands as a testament to everyone, named or unnamed, who not only laid the foundation, but helped build something new.





**CARGILL
FERTILIZER, INC.**

*8813 Highway 41 South
Riverview, FL 33569*

• *Bartow*

• *Ft. Meade*

• *Hookers Prairie*

• *East Tampa/Riverview*

