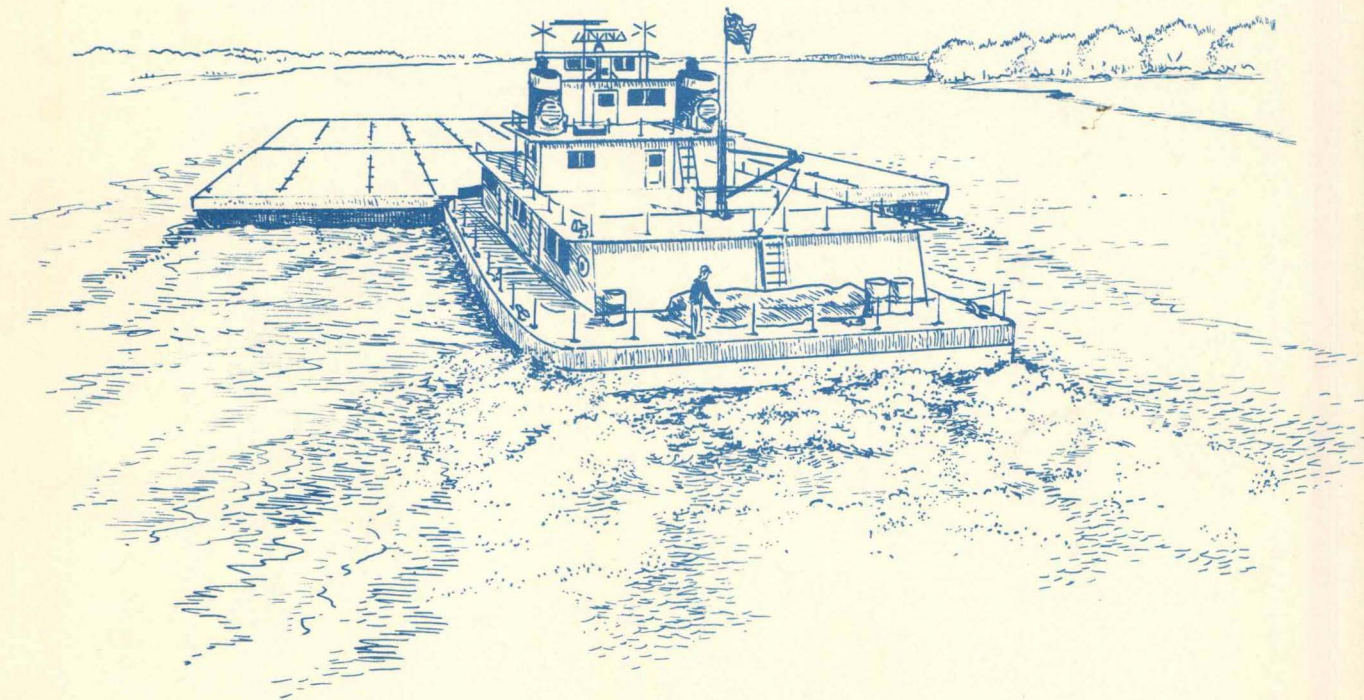


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1976 Iowa Barge Terminal Study

GENERAL SUMMARY



FREQUENTLY CALLED NUMBERS

State Government

Iowa Department of Transportation

River Transportation Division	(515) 281-4292
Railroad Division	(515) 296-1367
Transportation Regulation Board	(515) 281-3631

Natural Resources Council	(515) 281-5913
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Conservation Commission	(515) 281-5145
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Department of Environmental Quality	(515) 265-8134
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Federal Government

<u>Federal Spill Report</u> (U.S.C.G.)	(800) 424-8802
--	----------------

U. S. Army Corps of Engineers - Operations Division

Kansas City District	(816) 374-3644
Omaha District	(402) 221-4135
Rock Island District	(309) 788-6361 (Ext. 275)
Rock Island District - River Condition Report	(309) 788-4750
St. Louis District	(314) 268-2106
St. Louis District - River Condition Report	(314) 268-3936
St. Paul District	(612) 725-7561
St. Paul District - River Condition Report	(612) 222-3623

U. S. Coast Guard

Dubuque (Depot)	(319) 582-1965
St. Louis (Marine Safety)	(314) 425-4657
St. Paul (Marine Safety)	(612) 725-7452

ERRATUM

1976

IOWA BARGE TERMINAL STUDY
GENERAL SUMMARY

Barge operations of Linwood Stone Products Co., Inc. were recently brought to the attention of the Iowa Department of Transportation and are not reflected in this report; however, in the photograph on page A-19 the top arrow correctly locates their docking area.

Mississippi River Terminal

MILES ABOVE OHIO RIVER: 475.3

NAME: Linwood Stone Products Co., Inc.

ADDRESS:

Rural Route 2, Davenport, IA 52804

PHONE: (319)324-1931

COMMODITIES HANDLED: Crushed stone, coal, and liquid fertilizer.

ACCESS: Truck and Rail
South of IA 22.

NOTES: Ships crushed stone and receives coal and liquid fertilizer. The crushed stone is mined nearby and the coal is used in producing lime.

IOWA BARGE TERMINAL STUDY

GENERAL SUMMARY

REVISED JUNE 1977

Prepared by

Office of Advance Planning
Division of Planning and Research
Iowa Department of Transportation

In Cooperation with the
United States Department of Transportation
Federal Highway Administration

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INTRODUCTION

Iowa is bordered by two navigable waterways -- the Mississippi River on the east and the Missouri River on the west. The U.S. Army Corps of Engineers operates and maintains the locks, dams, levees, and wing dams to control the navigation channels. In 1975 there were 65 commercial terminals in Iowa with barge handling facilities along the shores of both rivers. They handle about 9 million tons of barge freight each year.

Varying from terminal to terminal, barge-related operations include at least one of the following: loading, unloading, cleaning, repairing, and mooring for storage. In conjunction with these operations, barge freight is stored, manufactured, consumed, or transferred to and from other transportation systems.

Although barge service takes more shipping time than other transportation modes, its rates are economical, which increases the purchasing and marketing powers of Midwestern commercial concerns. Farmers purchase less expensive fertilizer and compete in a larger grain export market. Utility companies charge less for coal - produced electricity. Petroleum companies provide gasoline and fuel oil at lower prices, and other companies which require transportation of bulk quantities can pass savings on to the consumers. The Iowa DOT River Division has estimated that

if all Iowa's waterborne commerce was handled by other modes, Iowa's freight bill would increase 60 million dollars per year.

Motor trucks, railroads, or pipelines transport freight to and from these barge terminals. Some terminals dispatch 150 to 200 trucks per day, and others ship out as many as 750 rail cars per month. Very limited data were available on the origin and destination of the freight handled by these barge terminals, and as to how the freight was transported to and from the waterfront.

To better understand freight movement through barge terminals, the Iowa Department of Transportation (DOT) conducted a survey at each commercial dock location in Iowa during the summer of 1975, and summarized 1974 data collected in a report, "1975 Iowa Barge Terminal Study". During the summer of 1976, the Iowa DOT updated the 1975 survey. This report summarizes Iowa's 1975 barge terminal activities.

THE SURVEY

The Iowa DOT surveyed Iowa's barge terminals and collected extensive data on their freight movements. The most important data were volume shipped by commodity, origin and destination of freight through each terminal, and mode used to transport freight to and from each terminal.

Field work began in June 1976, and finished in August. All data were obtained through personal interviews with barge terminal owners or operators. Some companies were reluctant to release portions of the data desired; others had to be reassured that the Iowa DOT would not release the data to the public except in summary form. Iowa DOT field personnel were instructed to collect only those data which company representatives were willing to release.

Data collected during the summer of 1976 reflected freight movements during calendar year 1975.

SAMPLE BARGE SHIPPING RATES

The Iowa DOT obtained barge and tow costs per ton by commodity-- from operators willing to release them. However, rates fluctuate with the discounts or premiums applied by the barge lines. The Waterway Freight Bureau Tariff determines rate guidelines. Sample barge shipping costs per ton by commodity, as provided by the barge terminals during the 1975 and 1976 surveys, are:

Mississippi River Rates (1974, 1975)

Alcohol (1975) - Muscatine, Iowa to Owensborough, Kentucky

\$3.86/ton for towing service only

Muscatine, Iowa to New Orleans, Louisiana

\$4.41/ton for towing service only

Barge size is 1,000 tons.

Caustic Soda (1975) - Louisiana to Clinton, Iowa

\$6.60/ton

Barge sizes are 900 and 1,200 tons.

Cement (1974) - Hannibal, Missouri to Bettendorf, Iowa

1 barge	1,200 h.p. tow	\$1.00/ton
2 barges	1,200 h.p. tow	.73/ton
1 barge	1,800 h.p. tow	1.38/ton
2 barges	1,800 h.p. tow	.87/ton

Coal (1974) - Southwest Illinois to Muscatine, Iowa; St. Louis, Missouri to Muscatine, Iowa - \$2.50/ton

Southwest Illinois to Clinton, Iowa - \$2.32/ton

Minneapolis, Minnesota to Clinton, Iowa - \$2.20/ton

Average barge size is 1,400 to 1,500 tons.

Diammonium Phosphate (DAP) (1975) - Fort Madison, Iowa to Dubuque, Iowa - \$2.40/ton

Average barge size is 1,400 tons.

Fertilizer (1975) - Louisiana to Burlington, Iowa - \$3.00 to \$4.00/ton

Average barge size is 1,500 tons.

(Maximum of 1,650 tons possible with 9 foot draft)

Grain (1974, 1975) - Iowa (Mississippi River) to Gulf of Mexico

	<u>1974</u>	<u>1975</u>
Typical	\$5.32/ton	\$5.60/ton
Low	\$2.93/ton	\$4.32/ton
High	\$7.98/ton	\$8.15/ton

Average barge size is 1,400 to 1,500 tons.

Manganese Ore (1974) - New Orleans, Louisiana to Keokuk, Iowa - \$7.80/ton

Average barge size is 1,400 to 1,500 tons.

Molasses (1975) - Louisiana to Buffalo, Iowa - \$6.80/ton

Barge size is 1,400 tons.

Petroleum (1974) - St. Louis, Missouri to Burlington, Iowa - \$.0065/gal.

\$1.62/ton / 20,000 barrel barge (42 gallon/barrel)

Barge size is 3,300 tons.

Phosphate Rock (1975) - Florida to Fort Madison, Iowa - \$5.80/ton

Barge size is 1,500 tons.

Salt (1975) - New Orleans, Louisiana to Buffalo, Iowa - \$4.22/ton

Barge size is 1,450 tons.

Sand (1974) - Albany, Illinois to Bettendorf, Iowa - \$1.50/ton

Barge size is 300 tons.

Twine (1974) - New Orleans, Louisiana to Dubuque, Iowa - \$7.50/ton

(1975) - New Orleans, Louisiana to Dubuque, Iowa - \$8.21/ton

Average barge size is 700 to 800 tons.

Missouri River Rates (1974, 1975)

Grain (1975) - Missouri River Terminals to Gulf of Mexico

Low \$ 9.25/ton

Average \$10.00 to \$11.00/ton

High \$13.00/ton

Average barge size is 1,000 to 1,200 tons.

Petroleum (1974) - Kansas City, Missouri to Sioux City, Iowa - \$5.50/ton

Average barge size is 1,000 tons.

Salt (1975) - Belle Isle, Louisiana to Sioux City, Iowa

Low \$ 7.25/ton

High \$ 8.50/ton

Average barge size is 1,200 tons.

IOWA BARGE TERMINALS

Commercial barge terminals have been established along Iowa's two navigable border rivers to take advantage of the lower costs per ton-mile (One "ton-mile" is one ton moved one mile.) of transporting large quantities of bulky, heavy cargo over long distances by barge as compared with other modes. The following sections review various aspects affecting the activity of Iowa's barge terminals.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers is responsible for construction, operations, and maintenance of waterway facilities for navigation, flood control, and related purposes. Applications by companies seeking permission to construct barge terminals in Iowa must be approved by one of the three Corps of Engineers Districts which have jurisdiction along Iowa's river borders. On the Mississippi River, the Rock Island District extends from Lock and Dam No. 22 near Hannibal, Missouri to Lock and Dam No. 10 near Guttenberg, Iowa. The St. Paul District extends from Lock and Dam No. 10 north to the Minneapolis-St. Paul area in Minnesota. On the Missouri River the Omaha District extends from Rulo, Nebraska north to Sioux City, Iowa.

Terminal Location

Sixty-five barge terminals operated during 1975 on Iowa's shorelines along the Mississippi (58 terminals) and the Missouri (7 terminals). However, 1 of the 58 Mississippi terminals discontinued operations in 1975. The Army Corps of Engineers also listed 2 constructed facilities on the Mississippi and 3 on the Missouri which in 1975 had no plans for handling barges. Four companies have submitted construction applications to the Corps of Engineers, but those terminals may not be constructed. In 1976 or in the near future, new barge operations will begin at 6 recently constructed facilities on the Mississippi (including 3 terminals listed by the Corps of Engineers prior to 1976 as unbuilt), while on the Missouri, 1 inactive terminal renewed barge operations and another new facility is nearing completion. Maps, terminal descriptions and aerial photographs of Iowa's barge terminals operating or nearing operation in 1976 are shown in the Appendix.

Although the terminals are scattered along both rivers, there are concentrations near Burlington, Muscatine, Davenport, Bettendorf, Clinton, and Dubuque on the Mississippi, and near Sioux City on the Missouri.

Characteristics of Waterway Services

Waterway service depends on the navigation season, the availability of adequate vessel draft in the river channels and docking areas, the types of barge and tow service available, and shipping time.

The Missouri River navigation season along Iowa's border is limited by winter ice conditions and normally extends from late March to late November. Adequate water for navigation on the Missouri is maintained by water releases from 6 reservoirs in Montana, North and South Dakota, and Nebraska.

Ice limits the Mississippi River navigation season to March through December, near Iowa's northeast corner, while warmer winter temperatures further south usually permit year-round shipping for terminals located as far north as Keokuk. Between St. Louis, Missouri; and St. Paul, Minnesota; 29 dams with locks maintain the 9-foot Mississippi navigation channel. Eleven of these dams operate along the 312-mile eastern border of Iowa.

Because of occasional low water periods and silt deposits, the weight of a barge shipment is some times reduced to as little as 75% of capacity so that the barges float higher in the water and clear underwater obstructions. To provide a minimum 9-foot draft, sections of the river channel and some docking harbors must be dredged.

At normal water levels, 3 or 4 barges can be tied to most docks for handling shipments while others may be moored within a short distance of the main docks. Some terminals are able to dock and moor 30 or more barges at one time.

The majority of the barges are 195 feet long by 35 feet wide, have an average load capacity of 1,450 tons, a draft of 9 feet when loaded, and cost approximately \$140,000. Barge loads range from 250 to 3,300 tons depending upon barge size and cargo type. A single towboat can push up to 15 barges (195 feet x 35 feet) carrying a total cargo weight of 22,500 tons on the Upper Mississippi (north of the Ohio River). On the Lower Mississippi a towboat can handle 30 or more barges. On the Missouri River an average tow is 2 barges from Sioux City to Council Bluffs, 4 barges from Council Bluffs to Kansas City, and 6 barges from Kansas City to the mouth of the Missouri River.

Barges may be washed and cleaned on the inside so that a barge is not restricted to one commodity. For example, barges which transport grain downstream may carry coal, phosphate rock, or cement upstream. Also, some barges are separated into a number of compartments and can carry more than one commodity.

Most of the terminals in Iowa do not own barges or towboats and therefore lease from large companies, usually south of Iowa. A few large Midwest companies own terminals all along the rivers and have purchased barges and tows for use by each company's terminals.

Barge commodities originating or terminating in Iowa travel to and from points all along the inland waterways system. Normally shipments from Florida and overseas arrive at New Orleans on ocean ships and must be transferred to smaller barges for shipment on inland rivers. LASH barges (400-ton capacity) and SEABEE barges (800-ton capacity) can be transferred directly to and from ocean ships. This avoids the time for transferring shipments between ships and barges because the LASH and SEABEE barges serve as containers on the ocean ships and barges on the river. Because large numbers of these small barges must be moved to offset the cost of using special ocean ships and handling facilities, very few are received in Iowa.

In the Appendix Figure A-1 ("Mississippi River and Tributaries, Inland Waterways System") shows Iowa's position relative to the entire inland waterways system. The following lists key points from south to north relative to the junction of the Mississippi and Ohio Rivers:

	<u>Mississippi River</u>	<u>Miles</u>
New Orleans, Louisiana		859
Junction of Mississippi and Ohio Rivers		0
St. Louis, Missouri		180
Mouth of Missouri River		223
Keokuk, Iowa (near southern border of Iowa).		362
Davenport, Iowa		483
Dubuque, Iowa		579
Northern border of Iowa on Mississippi River		674
St. Paul, Minnesota		839

<u>Missouri River</u>	<u>Miles</u>
Southern border of Iowa on Missouri River	748
Council Bluffs, Iowa	811
Sioux City, Iowa	927

The following examples indicate typical times for one-way barge trips:

- Davenport to New Orleans ----- 1,342 miles, 2 weeks;
- Sioux City to New Orleans ----- 1,786 miles, 2 to 3 weeks; and
- Dubuque to St. Paul ----- 260 miles, 2 to 3 days.

The line-haul travel rate is roughly 150 miles per day less time for going through locks, arranging tows, and river and weather conditions.

Access to Supporting Transportation Services

Other transportation modes often support barge transportation service in Iowa barge terminals to meet normal daily needs, to offset recurring service and cost limitations inherent in the use of each mode, and to take advantage of special service and reduced rate offerings. There are tradeoffs among such factors as commodity market price, seasonal variations in shipping rates, quantity discounts, speed and distance of delivery, loss and damage of shipments, availability of transportation vehicles, and availability and cost of storage -- in selecting the optimum balance of modes necessary to maximize service and minimize transportation cost.

Commodities transported by barge are distributed to and from the barge terminals by various combinations of truck and rail. Thirty-eight of Iowa's 65 terminals have rail sidings but some of these rail siding are not used. Most of the terminals rely heavily on trucks for the transportation of barge commodities. The majority of trucks are dispersed to locations within a 150 mile radius of the barge terminals, while the dispersion of commodities by rail may extend to many areas in the Midwest.

One barge terminal uses 20-car mini-trains to transport products to the terminal for shipment by barge. Twenty empty hopper cars are distributed along a rail line to locations a maximum of 250 miles from the terminal. The hopper cars are loaded and returned to the barge terminal. This 2-day operation is completed 3 times weekly, and moves 60 hopper cars per week.

Railroad cars commonly used are: 25 and 80-ton tank cars for liquids; hopper cars ranging from 50 tons to 100 tons for grain and other dry commodities; and 70-ton gondolas, 50-ton boxcars, and 50-ton flatcars for miscellaneous commodities.

Because a considerable number of trucks transport commodities to and from Iowa barge terminals daily, highway access to the terminals is very important. Many Iowa barge terminals are located within the large metropolitan areas within reasonably

good access via local city streets. Rail lines parallel the Mississippi and Missouri Rivers in many of these metropolitan areas, so one access problem common to many of the metropolitan barge terminals is the existence of a rough rail crossing on the access drive.

Eighteen of Iowa's barge terminals are located along the Mississippi River in rather isolated rural areas. Access to these rural terminals is via gravel roads. Storage and handling facilities at the terminals are usually located on the river bank; consequently quite severe geometrics exist on the gravel roads leading to the terminals. For example, access to one terminal is described as "A steep winding gravel road which is cut into a hill and bears a sign warning of falling rocks". Similar descriptions apply to several other rural terminals.

A few of the barge terminals receive petroleum products by pipeline in addition to barge shipments. One terminal now depends exclusively on pipelines for petroleum but still retains the capability of receiving barge shipments.

Storage Facilities

Storage facilities for about 4.6 million tons at Iowa barge terminals include open storage, warehouses, elevators, silos, tanks, and bins. Open storage accounts for 50% of the total space available and the majority of open storage is for coal at electric power plants.

Storage space is used not only for barge commodities, but also for commodities produced or used at the terminal and for temporary storage of commodities moved through the terminal by rail, truck, and pipeline.

Handling Facilities

Commodities carried by barge are transferred by a variety of handling facilities to and from trucks, railroad cars, and storage facilities.

Handling systems vary according to the type of commodity. Liquids and cement are pumped through pipes; grain is moved by augers, conveyor belts, and overhead chutes; and bulk commodities are handled by cranes and conveyor belts.

A 1,400-ton grain barge can be loaded by a conveyor system in 4-12 hours. Using the pumps provided on barges, petroleum products can be drained from a 1,400-ton barge in about 8 hours. Molasses must be steam-heated sometimes for 8 hours and then pumped from the barge in 12 hours. Cranes remove commodities such as coal and salt from barges at an average rate of 150 to 200 tons per hour.

Truck hoists can unload a 24-ton truck load of grain in 3 minutes into a receiving pit. Twenty-four tons of petroleum can be moved by pipes from a storage tank to a truck in 15 minutes. Sand from an overhead bin can be poured into a 15-ton truck in

45 seconds. Weighing time for a truck is usually about 10 seconds unless there is some distance between loading and weighing areas. At the peak of the grain-moving season, long lines of trucks wait for weighing and unloading.

Ownership and Operation

Iowa barge terminals are owned by small transportation companies, river-front industries, Midwest co-ops, grain companies, and petroleum companies. Some storage and dock facilities are even owned by cities (e.g., Clinton and Dubuque) on the Mississippi River. Terminal owners may handle only their own commodities, contract to manage shipping and receiving for other companies, or lease the facilities and the management of operations to other companies; or a combination of these.

Barge commodities are transported to and from inland locations, produced at the terminal, or consumed in the production of electricity, fertilizer, cement, and other products.

Because of on-site manufacturing and the flexibility of the facilities to coordinate the commodity transfer among transportation systems, not all transfers involve barge transportation.

Expansion Plans

Land for expanding barge terminals is nonexistent in some metropolitan areas but acreage is available at a majority of the terminals.

Some terminals are planning to expand along the river bank, add new rail sidings, increase the capacity of existing rail sidings, increase storage space, and add new handling facilities.

BARGE COMMODITIES

During 1975, Iowa barge terminals handled 8,860,000 tons -- 96.5% at the Mississippi River terminals and 3.5% at the Missouri River terminals. Commodities handled were: grain and grain products - 48%; coal - 14%; petroleum - 12%; and other commodities - 26%. Table 1 summarizes for each commodity the volume of barge freight and the type of land, transportation modes used for freight dispersion and consolidation. Table 2 compares 1974 and 1975 barge commodity tonnages originating or terminating in Iowa.

Grain and Grain Products

About 80% of the grain is usually trucked to the terminals from areas within a 100-mile radius of the terminal, loaded on barges, and transported down river to harbors on the Gulf of Mexico.

The 4,213,000 tons of grain and grain products include: corn - 73%; soybeans - 20%; soybean meal - 4%; wheat - 0.5%; and miscellaneous (feed gluten pellets and corn screenings) - 2.5%.

An estimated 84% of the grain transported by barge is received from Iowa grain shippers and remainder is from out-of-state shippers. Fourteen terminals handle grain shipments exclusively and grain comprises 25 to 90 percent of the operations in 8 more.

Table 1
1975 SUMMARY OF BARGE COMMODITY
VOLUME AND DISTRIBUTION

COMMODITY	VOLUME		DISTRIBUTION (%)		
	TONS	% of RIVER MOVEMENT	TRANSPORTED BY TRUCK	TRANSPORTED BY RAIL	PRODUCED OR CONSUMED AT TERMINAL

MISSISSIPPI RIVER

GRAIN	4,135,500	48	79.7	20.0	0.3
COAL	1,225,000	14	3.7	0	96.3
PETROLEUM	1,076,400	13	96.2	0	3.8
OTHER	2,116,500	25	58.0	11.0	31.0
TOTAL	8,553,400	100	65.5	12.4	22.1

MISSOURI RIVER

GRAIN	78,400	26	97.4	2.6	0
COAL	0	0	0	0	0
PETROLEUM	0	0	0	0	0
OTHER	228,200	74	85.3	14.7	0
TOTAL	306,600	100	88.4	11.6	0

TOTALS

GRAIN	4,213,900	48	80.0	19.7	0.3
COAL	1,225,000	14	3.7	0	96.3
PETROLEUM	1,076,400	12	96.2	0	3.8
OTHER	2,344,700	26	60.7	11.3	28.0
TOTAL	8,860,000	100	66.3	12.4	21.3

Table 2
SUMMARY OF BARGE TONNAGE TOTALS - 1974 & 1975

The following table compares 1974 and 1975 data for the Mississippi and Missouri Rivers' total barge tonnages of grain, coal, petroleum, and other commodities which originate or terminate in Iowa.

YEAR	COMMODITIES (TONS)				ORIGINATE (TONS)	TERMINATE (TONS)	TOTAL (TONS)
	GRAIN	COAL	PETROLEUM	OTHER			
MISSISSIPPI RIVER							
1974	4,214,900	1,113,900	1,146,000	2,550,800	4,446,200	4,579,400	9,025,600
1975	4,135,500	1,225,000	1,076,400	2,116,500	4,287,100	4,266,300	8,553,400
<u>±</u> % Change	-1.9%	+10.0%	-6.1%	-17.0%	-3.6%	-6.8%	-5.2%
MISSOURI RIVER							
1974	207,800	0	8,000	172,300	226,100	162,000	388,100
1975	78,400	0	0	228,200	104,400	202,200	306,600
<u>±</u> % Change	-62.3%	0.0%	-100.0%	+32.4%	-53.8%	+24.8%	-21.0%
TOTALS							
1974	4,422,700	1,113,900	1,154,000	2,723,100	4,672,300	4,741,400	9,413,700
1975	4,213,900	1,225,000	1,076,400	2,344,700	4,391,500	4,468,500	8,860,000
<u>±</u> % Change	-4.7%	+10.0%	-6.7%	-13.9%	-6.0%	-5.8%	-5.9%

Coal

About 80% of the coal comes up the river from southern Illinois and Kentucky. Most of the other 20% is Wyoming and Montana coal, which is transported by rail to Minneapolis, Minnesota, transferred to barges, and shipped down river. Some Wyoming and Montana coal is also shipped by rail to St. Louis and then up the river by barge to Iowa.

Eighty-seven percent of the coal is received by 5 power plants near the river and consumed in the production of electrical energy; 9% is consumed during a manufacturing process at another terminal; and 4% is trucked inland to Iowa industries.

All 1,255,000 tons of coal are transported by barge to 7 terminals along the Mississippi River.

Petroleum

Twelve barge terminals have facilities for handling and storing petroleum products. Two of these terminals consume all their petroleum in manufacturing and 1 terminal in 1975 received petroleum by pipeline only. Of the 12 terminals, 8 received petroleum as the only barge commodity.

Most of the petroleum terminals are in the metropolitan areas of Bettendorf and Dubuque, Iowa. Barges transport petroleum up the river from refineries in St. Louis, Missouri; Wood River, Illinois; Joliet, Illinois; and Mt. Vernon, Indiana. Also, some petroleum comes down the river from Pine Bend, Minnesota. Ninety-

six percent of the petroleum is distributed by trucks from the terminals to surrounding areas within a 50-to 100-mile radius, and the other 4% is consumed at the terminals.

All of the 1,076,400 tons of petroleum are transported by barge to the 12 terminals on the Mississippi River. Table 2 shows 8,000 tons of petroleum were shipped to terminals on the Missouri River in 1974; however, those terminals involved received the petroleum by rail in 1975.

Other Commodities

Included in the 2,344,700 tons of "other" commodities moved by barge are: phosphate rock (processed into fertilizer) and other fertilizer products - 50%; industrial salt and road salt - 14%; sand, gravel, and rock - 13%; and over 30 other commodities - 23%.

Table 1 (1975) shows that on the Mississippi River these commodities were distributed by: truck - 58%, and rail - 11%. The remaining 31% was produced or consumed at the terminal. On the Missouri River all "other" commodities were shipped out by: truck - 85%, and rail - 15%.

Table 2 shows a 17% decrease of 434,300 tons for the "other" commodities from 1974 to 1975 on the Mississippi River. The major change was the decrease of 438,400 tons in the sand, gravel, and rock shipments.

FREIGHT DISTRIBUTION IN IOWA

Barge freight tonnage originates from (50%) and terminates at (50%) Iowa, commercial terminals. Barge operations in 1975 included both shipping and receiving by 12 terminals, 17 exclusively shipped freight, 31 exclusively received freight, and 5 terminals handled no freight. In 1975, freight tonnage was transported on rivers south of Iowa (90%), the Mississippi River north of Iowa (6%), and between locations along Iowa's two river borders (4%).

Iowa barge terminals handled 8.9 million tons of barge freight in 1975. About 7.0 million tons were shipped to and from the terminals by truck and rail, while the remaining 1.9 million tons were produced or consumed at the terminals.

Figure 1 shows the estimated dispersion of 1-way truck trips for all commodities between Iowa counties and barge terminals during a normal weekday's operation in 1974. Truck flow in the eastern two-thirds of Iowa is associated with Mississippi River terminals; in the western quarter of Iowa the truck flow is associated with Missouri River terminals.

The 1975 estimated distribution of freight transported between Iowa counties and barge terminals is shown (in thousands of tons) for trucks in Figure 2 and for rail in Figure 3. The truck distribution for 1975 is based on estimated 1974 truck trip dispersions for each commodity group during a normal weekday's operation. Of

the 5.9 million tons of barge freight moved by trucks, 4.3 million tons were moved within Iowa. Rail distribution for 1975 is based on sample periods of normal operation during the 1975 navigation season. Figure 3 shows the overlap in western Iowa of rail service attributable to terminals on both rivers. Of the 1.1 million tons moved by rail, over 0.9 million tons were shipped within Iowa.

Figure 4 shows the 1975 estimated distribution of Iowa barge tonnage (in thousands of tons) transported by the combination of trucks (Figure 2) and rail (Figure 3) between Iowa counties and barge terminals.

FIGURE 1
DISPERSION OF ONE -WAY TRUCK TRIPS BETWEEN IOWA COUNTIES
AND BARGE TERMINALS ON THE MISSOURI AND MISSISSIPPI RIVERS
DURING A NORMAL WEEKDAY'S OPERATION IN 1974

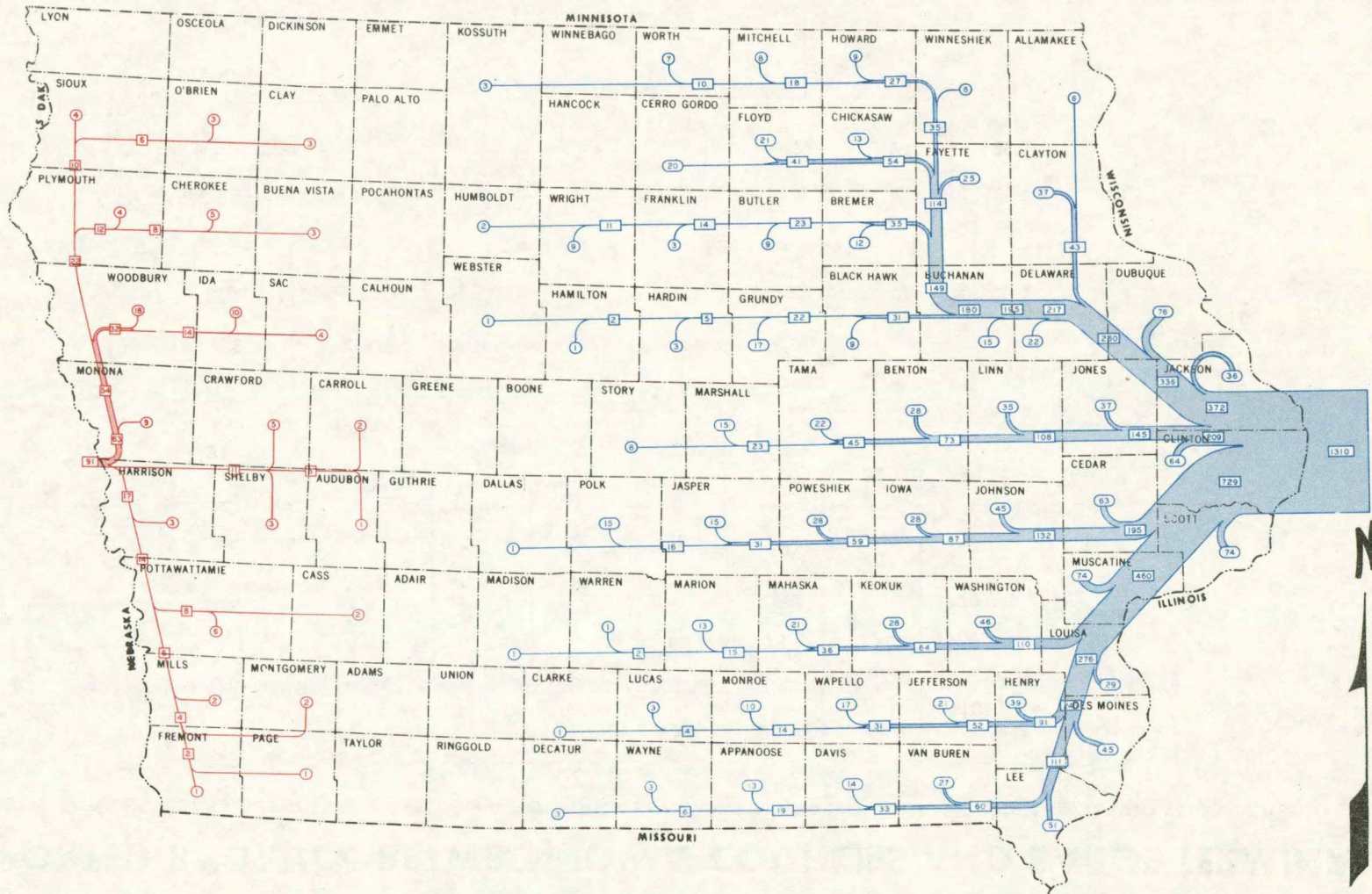
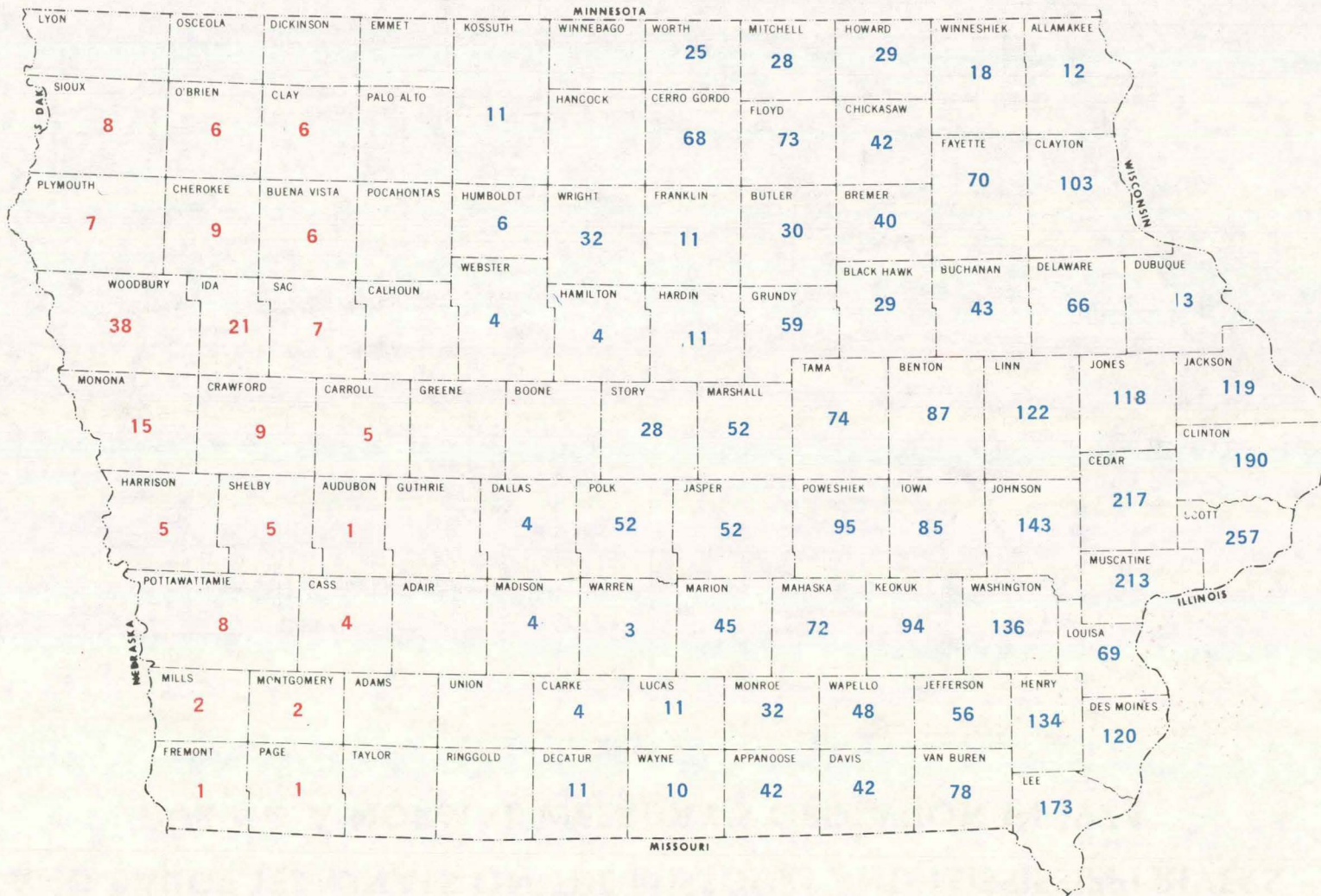


FIGURE 2

ESTIMATED 1975 ANNUAL BARGE TONNAGE DISTRIBUTION OF COMMODITIES TRANSPORTED BY TRUCK BETWEEN IOWA COUNTIES AND BARGE TERMINALS

(THOUSANDS OF TONS ESTIMATED FOR 1975, BASED ON A NORMAL WEEKDAY'S OPERATION DURING THE 1974 NAVIGATION SEASON)



26

TO AND FROM MISSOURI RIVER BARGE TERMINALS

TO AND FROM MISSISSIPPI RIVER BARGE TERMINALS

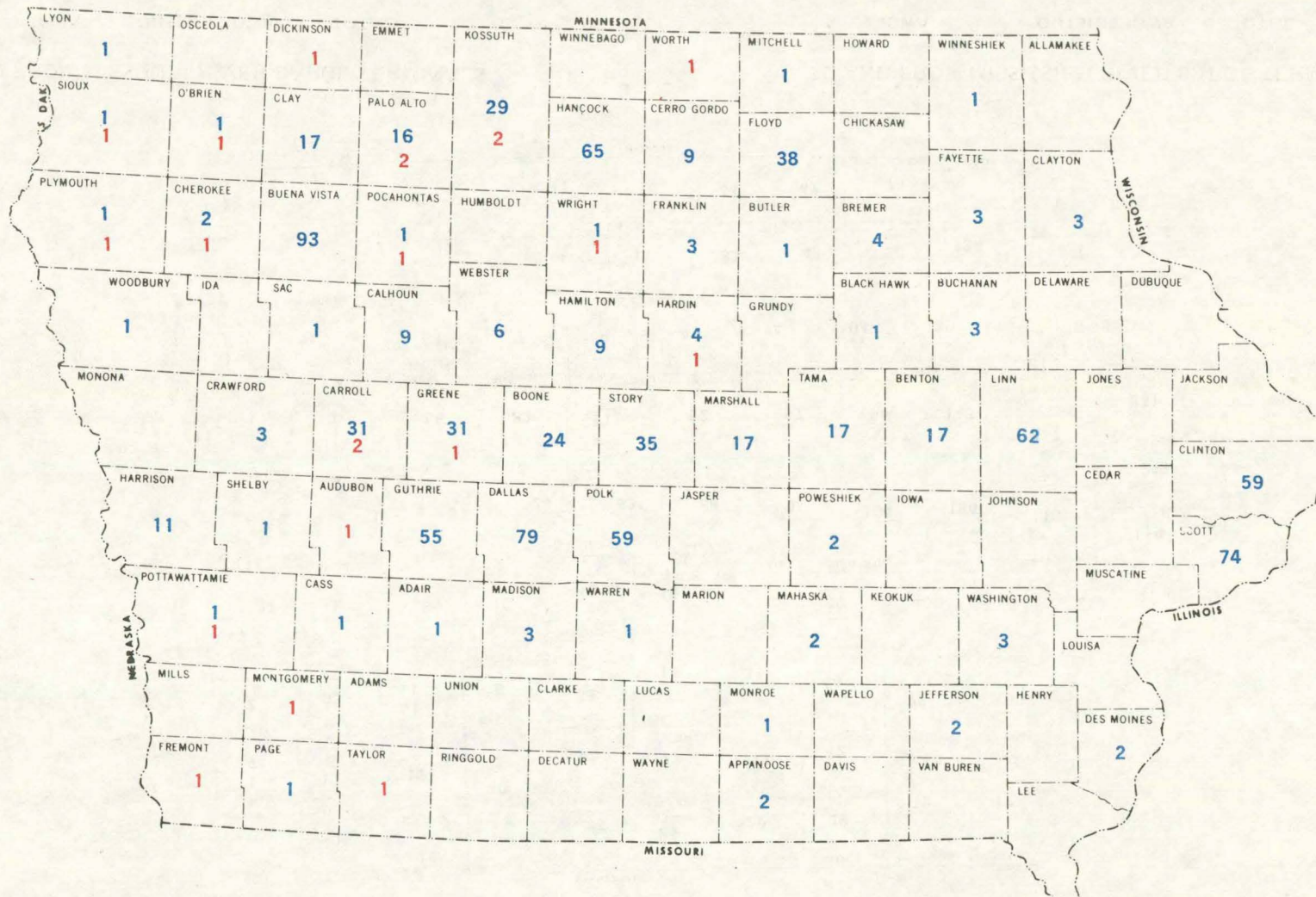
IOWA-TRUCK 166
 OUTSIDE IOWA-TRUCK 105
 TOTAL TRUCK 271

IOWA-TRUCK 4,119
 OUTSIDE IOWA-TRUCK 1,487
 TOTAL TRUCK 5,606

FIGURE 3

ESTIMATED 1975 ANNUAL BARGE TONNAGE DISTRIBUTION OF COMMODITIES TRANSPORTED BY RAIL BETWEEN IOWA COUNTIES AND BARGE TERMINALS

(THOUSANDS OF TONS BASED ON SAMPLE PERIODS OF NORMAL OPERATION DURING THE 1975 NAVIGATION SEASON)



TO AND FROM MISSOURI RIVER BARGE TERMINALS

TO AND FROM MISSISSIPPI RIVER BARGE TERMINALS

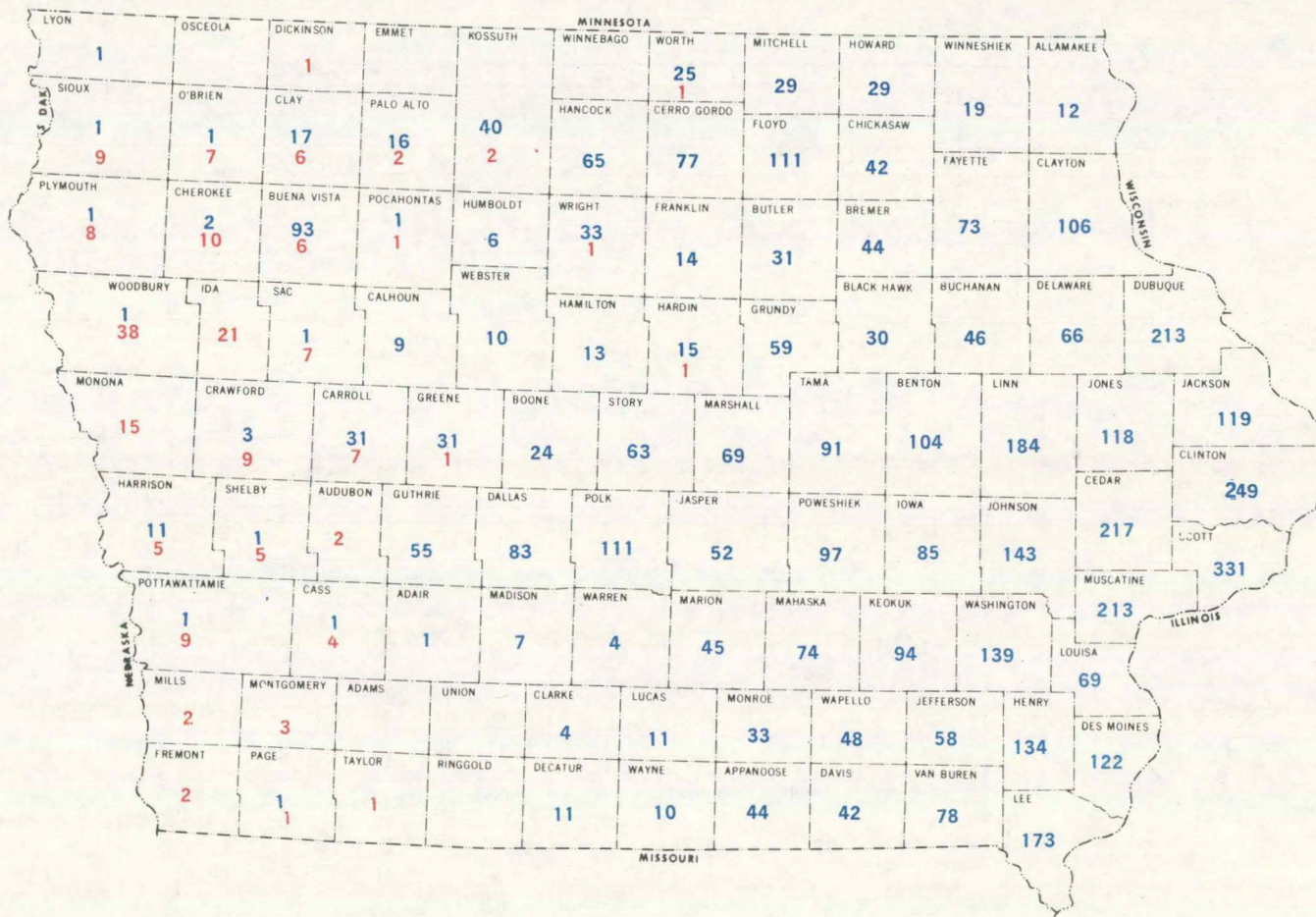
IOWA-RAIL	21
OUTSIDE IOWA-RAIL	15
TOTAL RAIL	36

IOWA-RAIL	922
OUTSIDE IOWA-RAIL	138
TOTAL RAIL	1,060

FIGURE 4

ESTIMATED 1975 ANNUAL BARGE TONNAGE DISTRIBUTION OF COMMODITIES TRANSPORTED BY TRUCK AND RAIL BETWEEN IOWA COUNTIES AND BARGE TERMINALS

(THOUSANDS OF TONS BASED ON SAMPLE PERIODS OF NORMAL OPERATION DURING THE 1974 AND 1975 NAVIGATION SEASON)



28

TO AND FROM MISSOURI RIVER BARGE TERMINALS

IOWA	OUTSIDE IOWA	TOTAL
166	105	271
21	15	36
187	120	307
0	0	0
187	120	307

TO AND FROM MISSISSIPPI RIVER BARGE TERMINALS

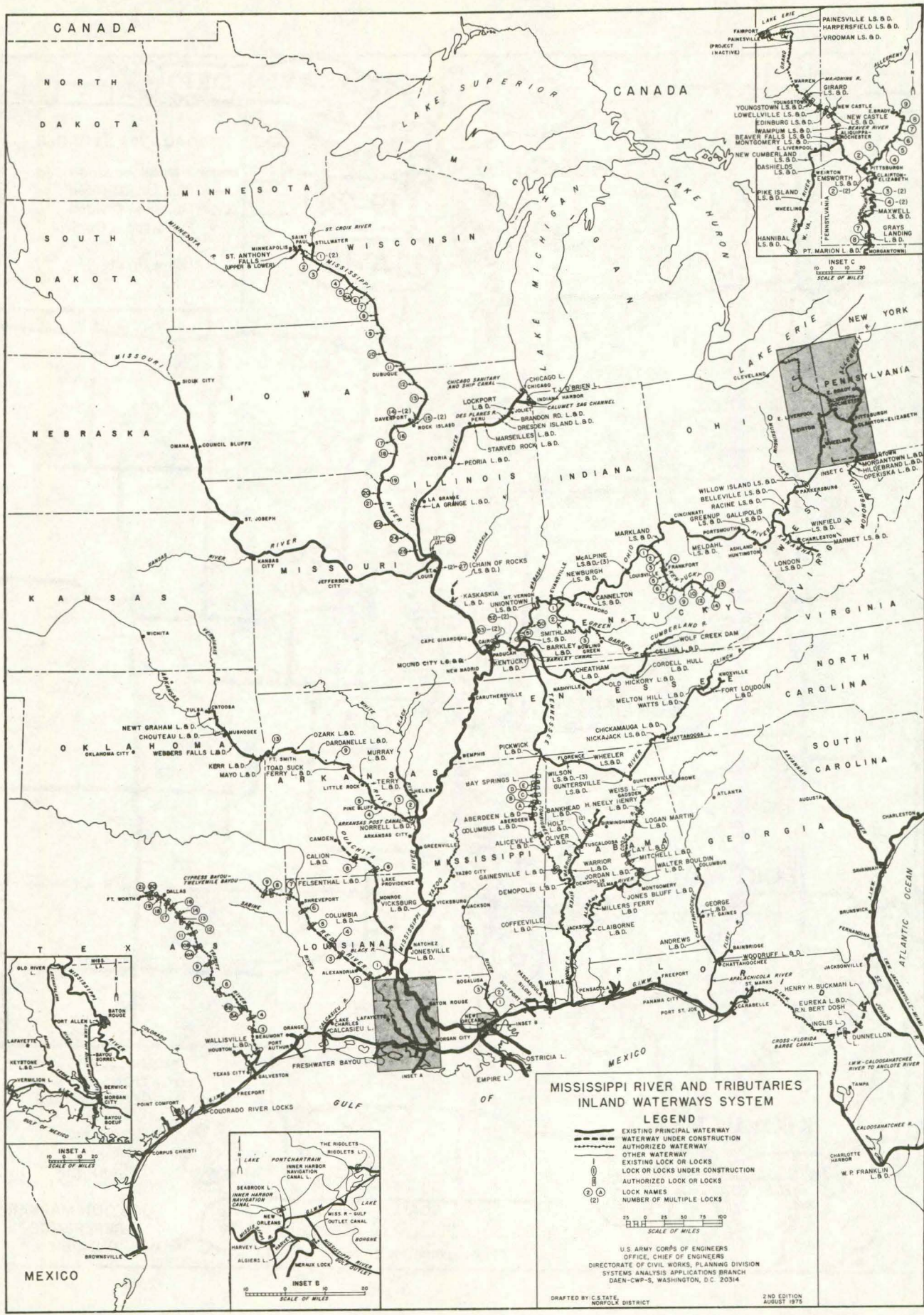
IOWA	OUTSIDE IOWA	TOTAL
4,119	1,487	5,606
922	138	1,060
5,041	1,625	6,666
1,887	0	1,887
6,928	1,625	8,553

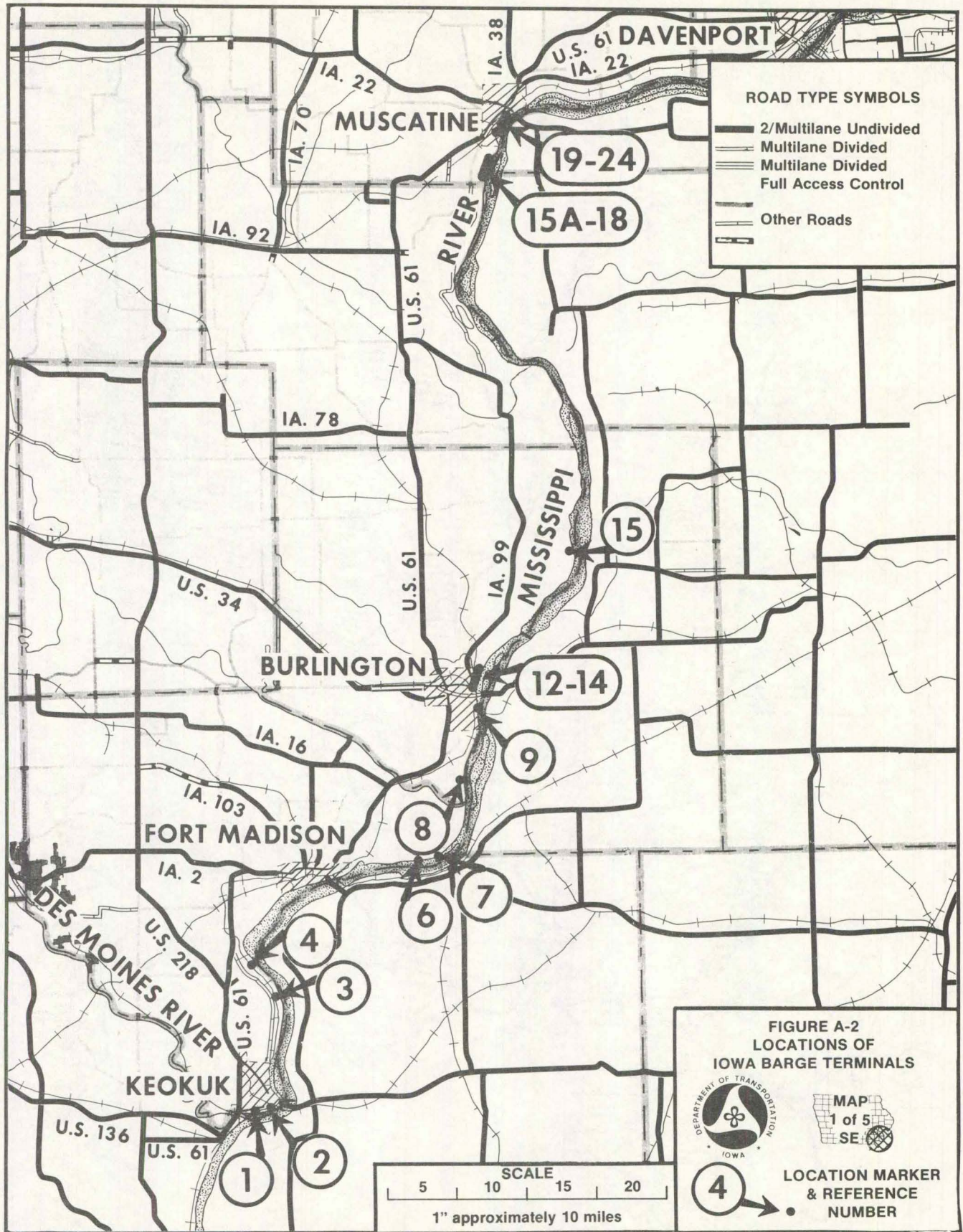
TRUCK
RAIL
TRUCK AND RAIL TOTALS
CONSUMED OR PRODUCED ON SITE
TOTALS

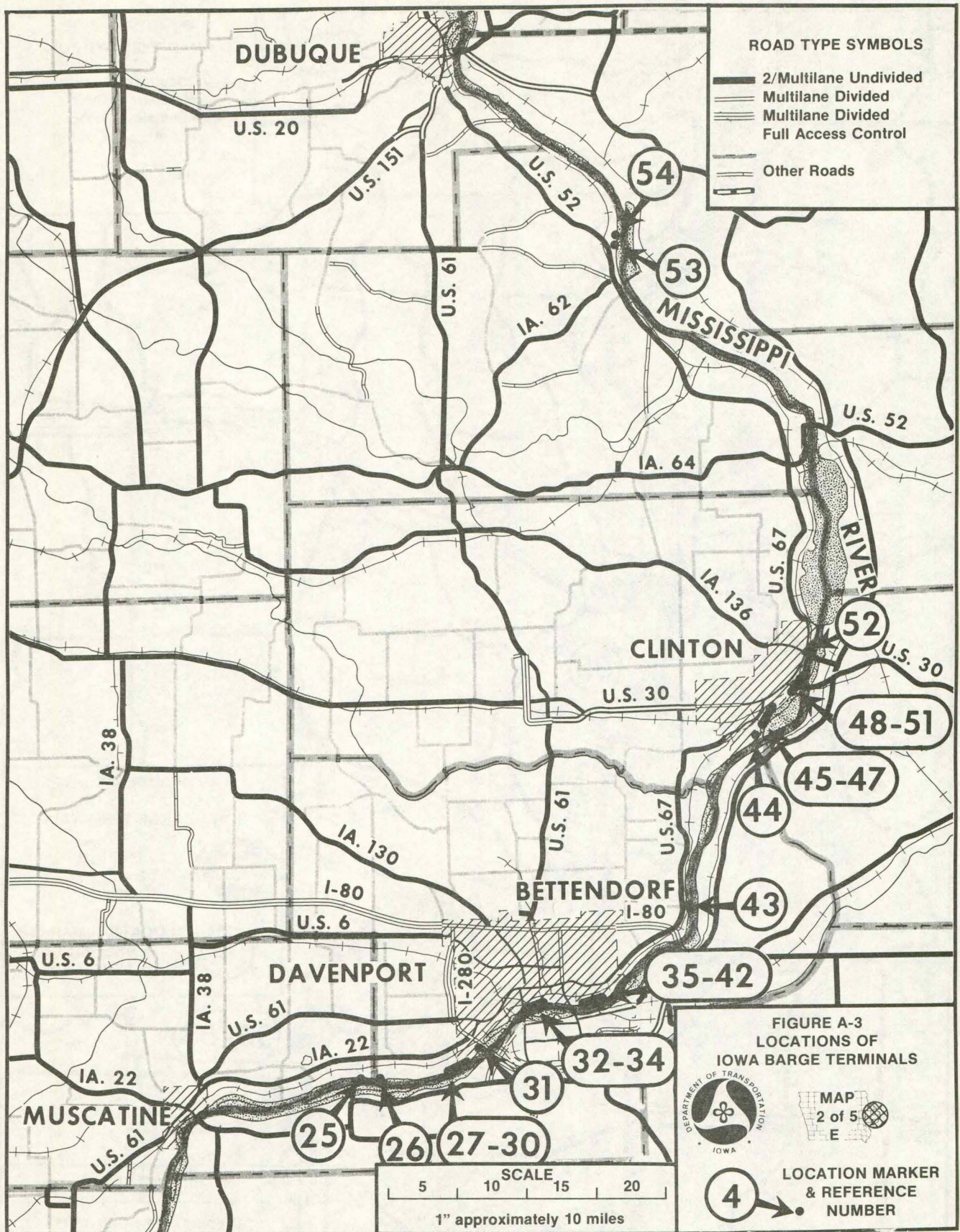
*DISTRIBUTION SHOWN IN RED ON MAP ABOVE

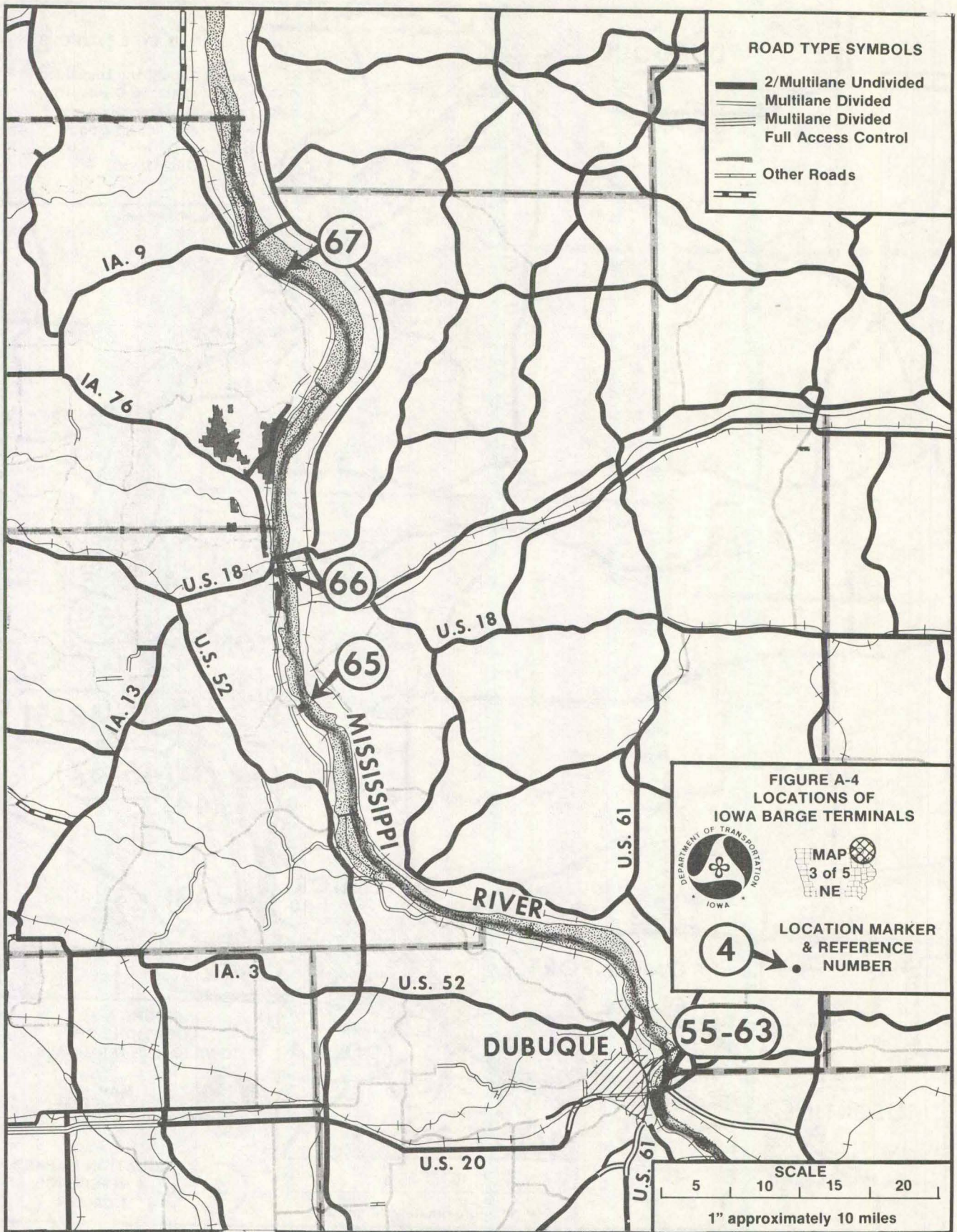
*DISTRIBUTION SHOWN IN BLUE ON MAP ABOVE

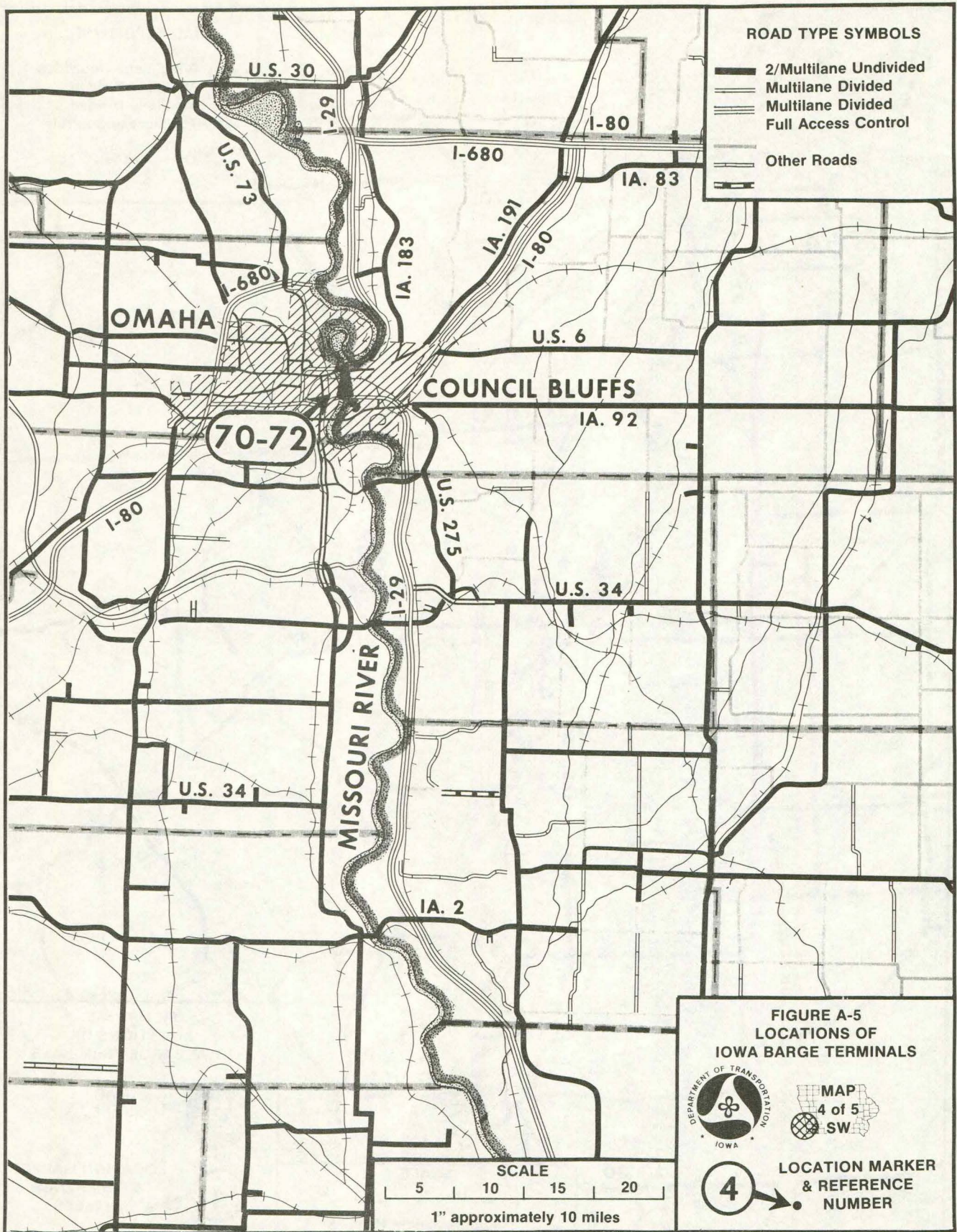
APPENDIX

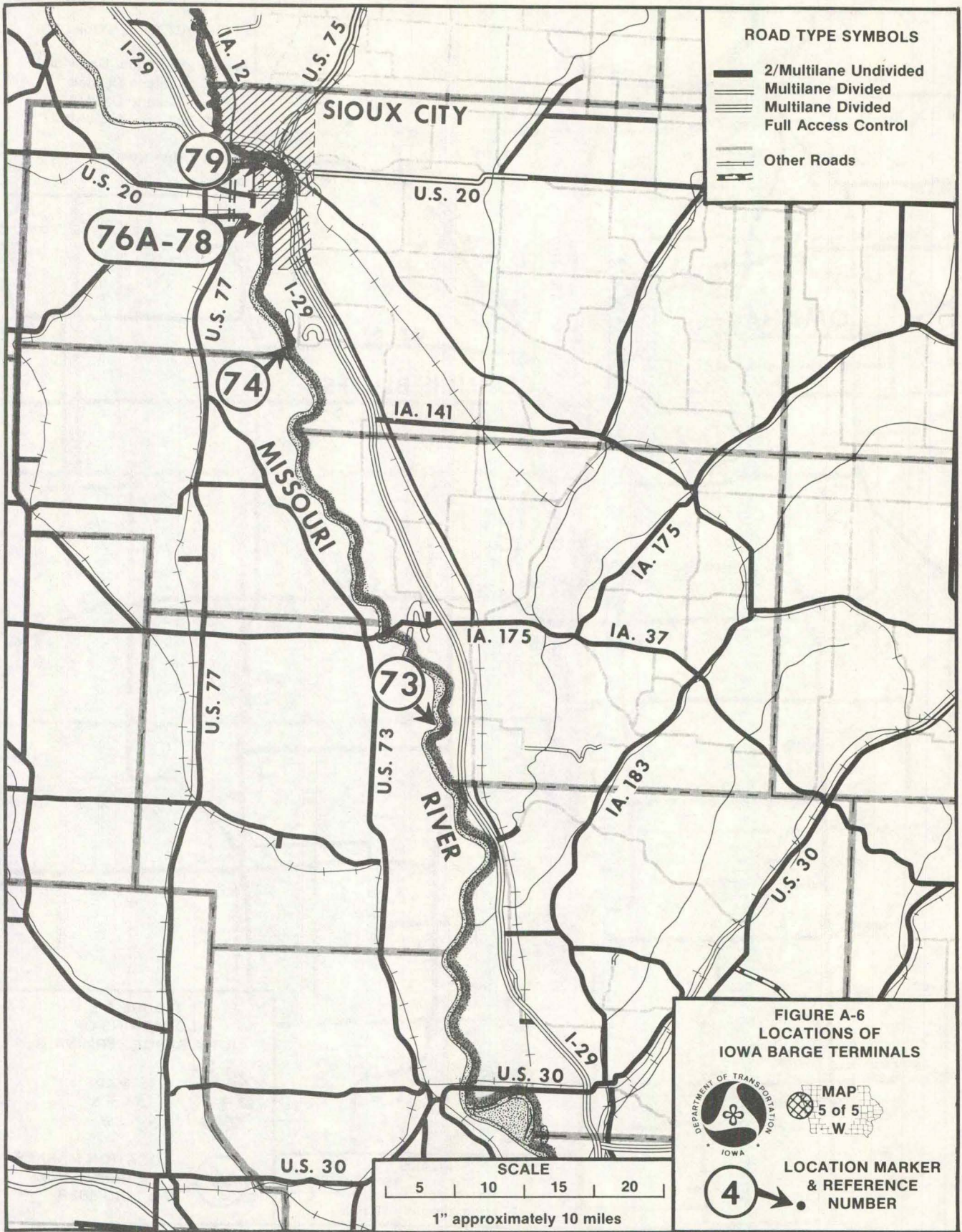












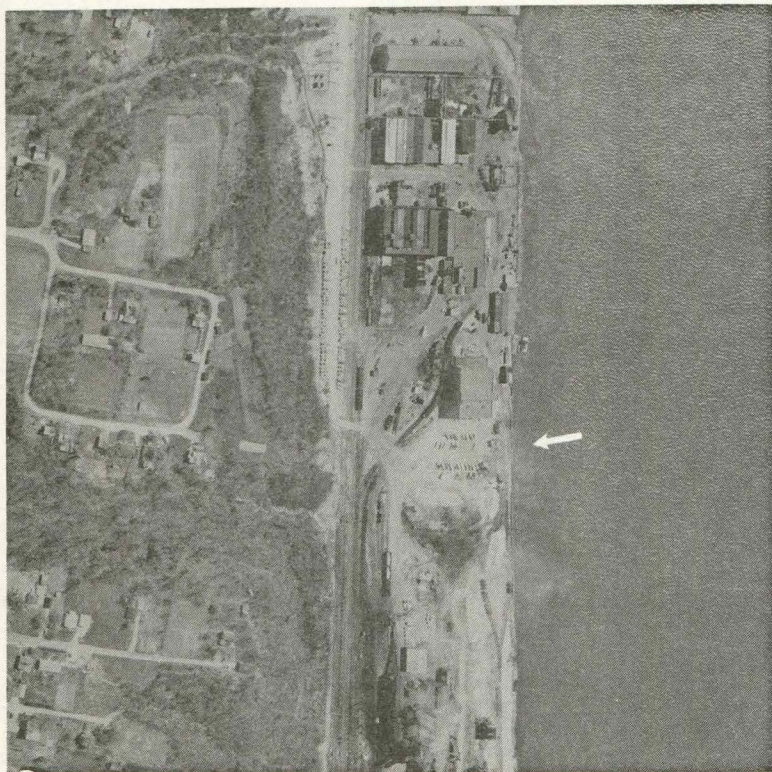
IOWA BARGE TERMINALS:
PHOTOGRAPHS AND FACTS

White arrows on the photographs locate handling facilities used for commodity transfer between barges and land-based facilities.

The "Map Reference No." corresponds to numbers used in "Locations of Iowa Barge Terminals", pages A-2 through A-6. The terminals are numbered from south to north along the Mississippi and Missouri Rivers.

Photograph scale: 1 inch equals 500 feet.

MISSISSIPPI RIVER TERMINALS



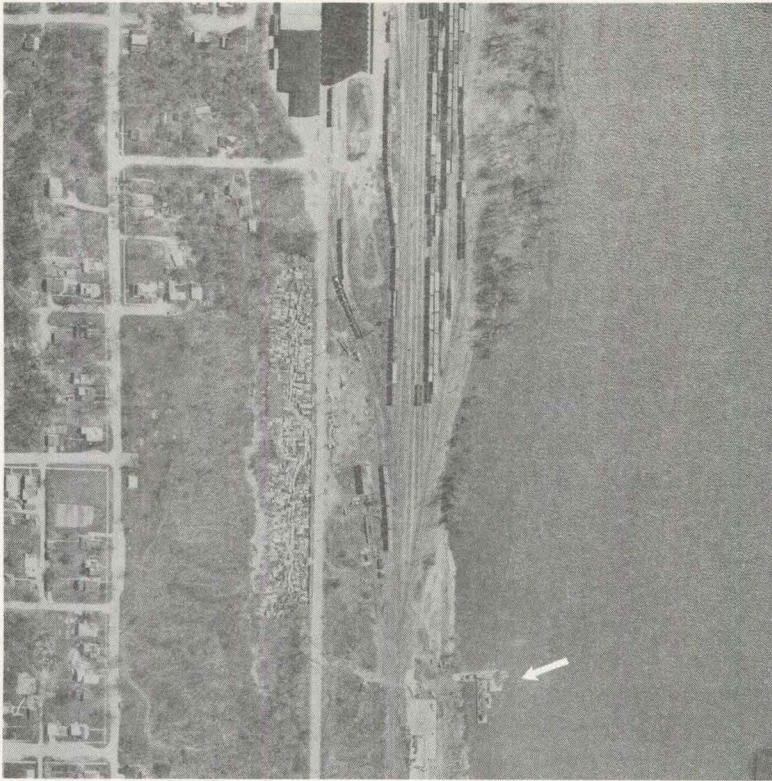
MAP REFERENCE NO.: 1
MILES ABOVE OHIO RIVER: 362.0
NAME: Foote Mineral Co.

ADDRESS: Ferro-Alloys Division
P.O. Box 527
Keokuk, IA 52632
PHONE: (319)524-5130
COMMODITIES HANDLED:
Manganese ore, pig iron, &
construction equipment.

ACCESS: Truck & Rail
3½ blocks south of US 136 on
B St. & about 1 mile west on
Commercial Street.

NOTES: Ships & receives
commodities for pig iron
refinery.

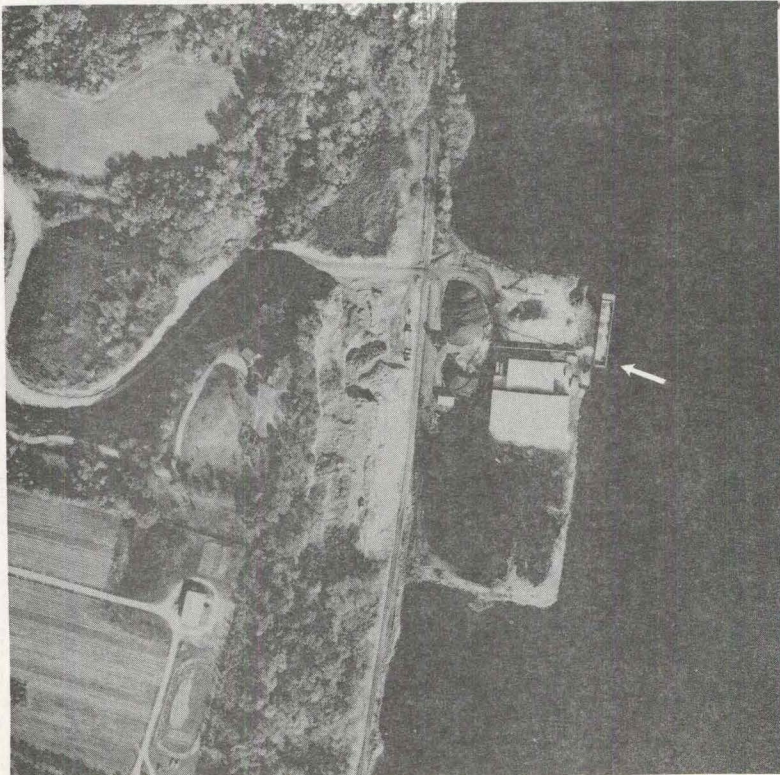
MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 2
MILES ABOVE OHIO RIVER: 362.3
NAME: J.C. Hubinger Co.

ADDRESS: (Office)
State Center Building
610 Main St., Keokuk, IA 52632
PHONE: (319)524-4151
COMMODITIES HANDLED:
Corn & corn gluten pellets.

ACCESS: Truck
3½ blocks south of US 136 on
B St. & about 0.5 mi. west on
Commercial St. to barge
facility.
NOTES: Ships grain products
from corn processing plant.

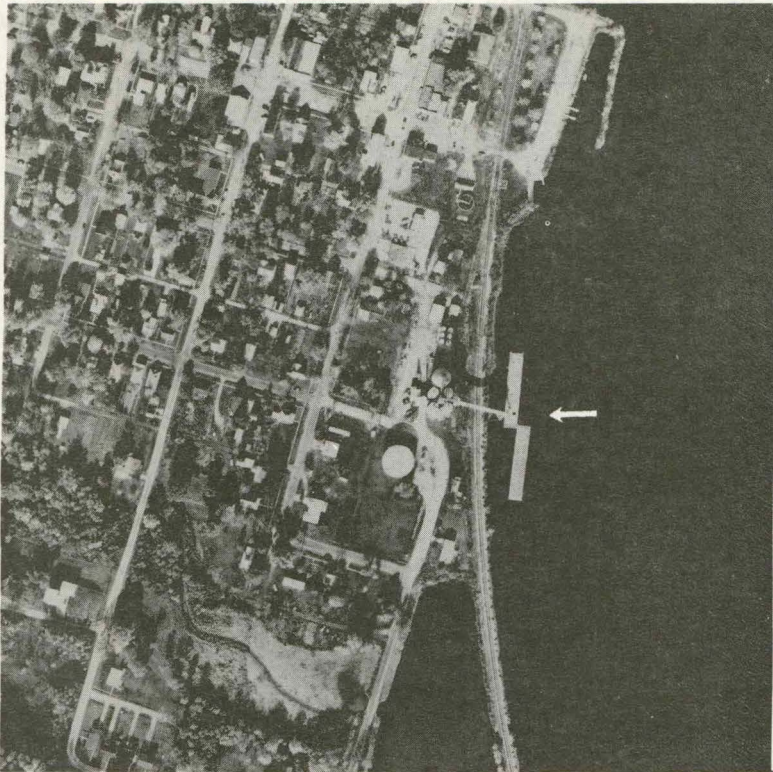


MAP REFERENCE NO.: 3
MILES ABOVE OHIO RIVER: 371.1
NAME: Iowa Gateway Terminal

ADDRESS: ATTN: W.E. Caldwell
River Road
Keokuk, IA 52632
PHONE: (319)463-5426
COMMODITIES HANDLED:
Coal, salt, newsprint, &
steel products.

ACCESS: Truck
About 4.5 miles south of
Montrose on narrow, winding,
paved road & 0.3 mi. on steep,
winding gravel road.
NOTES: Shipping & receiving
agent.

MISSISSIPPI RIVER TERMINALS



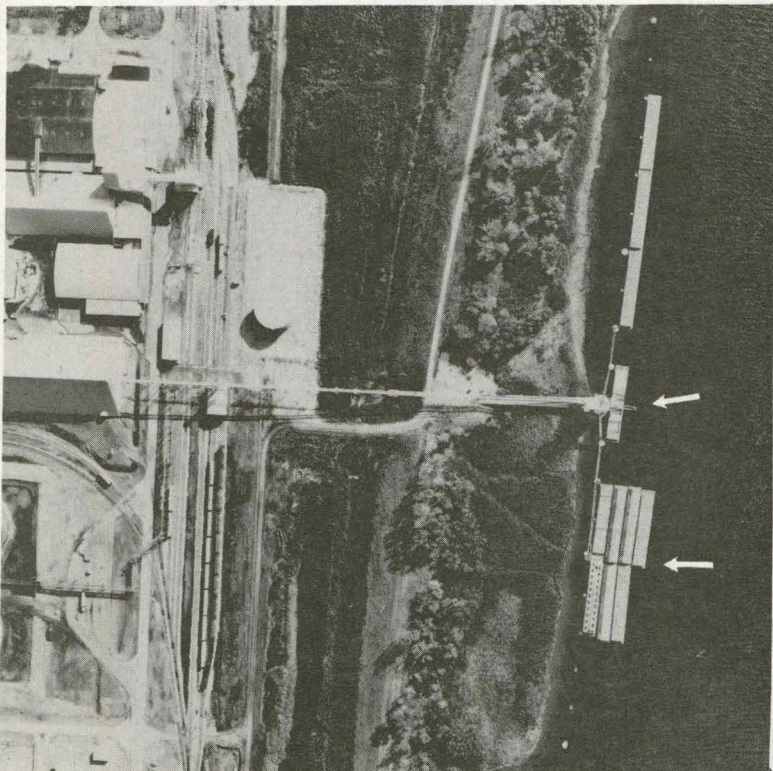
MAP REFERENCE NO.: 4
MILES ABOVE OHIO RIVER: 374.9
NAME: Hunold Elevator, Inc.

ADDRESS:
Montrose, IA 52369

PHONE: (319)463-5421
COMMODITIES HANDLED:
Corn, soybeans, & wheat.

ACCESS: Truck & Rail
On street in Montrose. A narrow paved road (IA 404) connects Montrose with US 61.

NOTES: Ships grain.



MAP REFERENCE NO.: 6
MILES ABOVE OHIO RIVER: 389.0
NAME: First Miss, Inc.

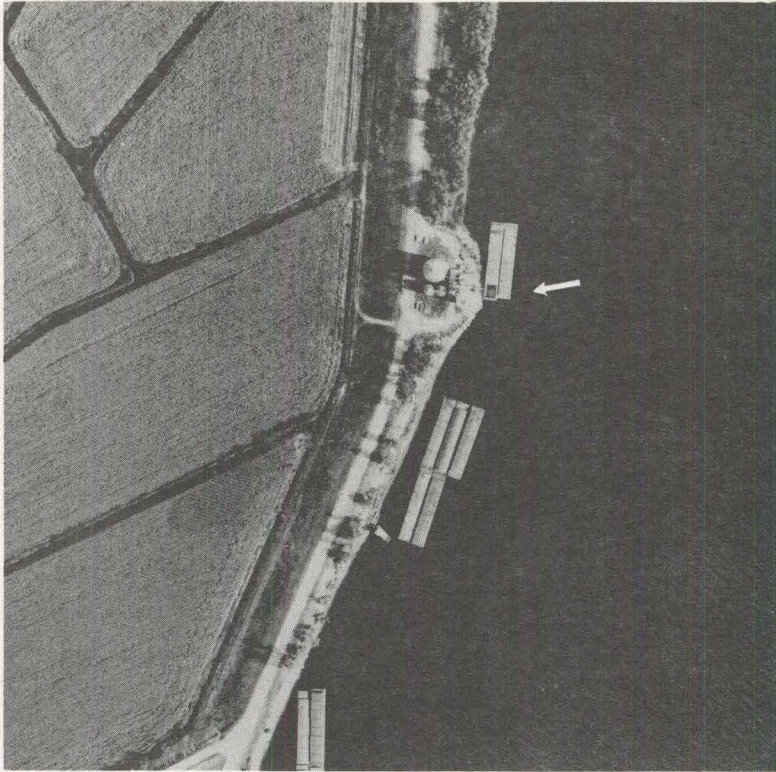
ADDRESS:
P.O. Box 328
Ft. Madison, IA 52627

PHONE: (319)376-2279
COMMODITIES HANDLED:
Diammonium phosphate, phosphate rock, NH_3 , & fuel oil.

ACCESS: Truck & Rail
SE of US 61 along 4.5 miles of paved and gravel roads.

NOTES: Ships fertilizer produced at the facility.

MISSISSIPPI RIVER TERMINALS

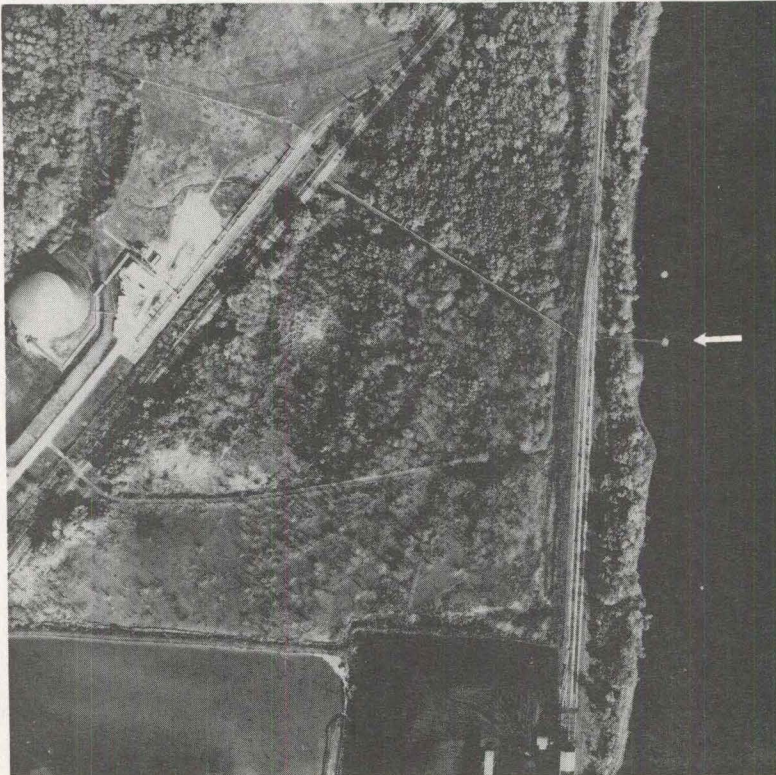


MAP REFERENCE NO.: 7
MILES ABOVE OHIO RIVER: 390.0
NAME: Green Bay Grain Co.

ADDRESS: (Office)
Green Bay Landing
Wever, IA 52658
PHONE: (319)372-5924
COMMODITIES HANDLED:
Corn, soybeans, & wheat.

ACCESS: Truck
SE of US 61 via 6 miles of
good, gravel roads.

NOTES: Ships grain.



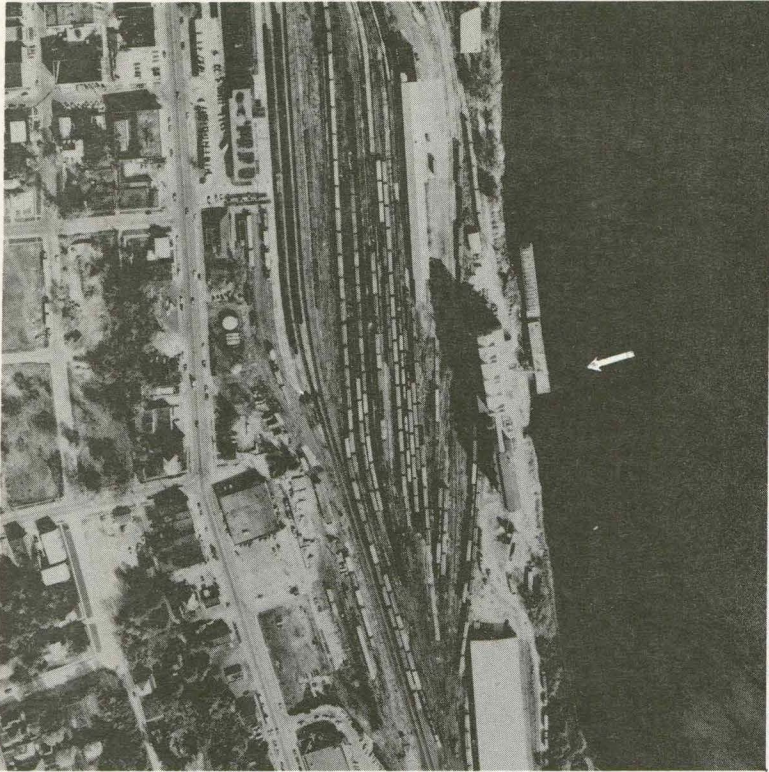
MAP REFERENCE NO.: 8
MILES ABOVE OHIO RIVER: 399.4
NAME: Standard Oil Co.

(AMOCO)
ADDRESS: Anhydrous Ammonia Term.
Old Highway 61 South
Burlington, IA 52601
PHONE: (319)752-3761
COMMODITIES HANDLED:
Anhydrous ammonia

ACCESS: Truck & Rail
SE of paved county road via
1 mi. of good, gravel roads
(1 steep incline).

NOTES: Receives anhydrous
ammonia.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 9
MILES ABOVE OHIO RIVER: 403.6
NAME: Tabor & Co., Division
of A-D-M Export
ADDRESS:
Box 309
Burlington, IA 52601
PHONE: (319)752-4586
COMMODITIES HANDLED:
Grain, soybean meal, &
gluten pellets.

ACCESS: Truck & Rail
1 mi. east of Burlington
business district via gravel
roads with rough RR crossing &
steep incline.

NOTES: Ships grain.



MAP REFERENCE NO.: 12
MILES ABOVE OHIO RIVER: 404.5
NAME: Yetter Oil Company

ADDRESS:
911 Osborne Street
Burlington, IA 52601
PHONE: (319)752-6331
COMMODITIES HANDLED:
Gasoline & fuel oil.

ACCESS: Truck
East of IA 99 via steep,
gravel road. Easy access to
truck loading area west of
IA 99.

NOTES: Receives petroleum.

MISSISSIPPI RIVER TERMINALS

MAP REFERENCE NO.: 13
MILES ABOVE OHIO RIVER: 405.2
NAME: Wayne Brothers Grain Co.

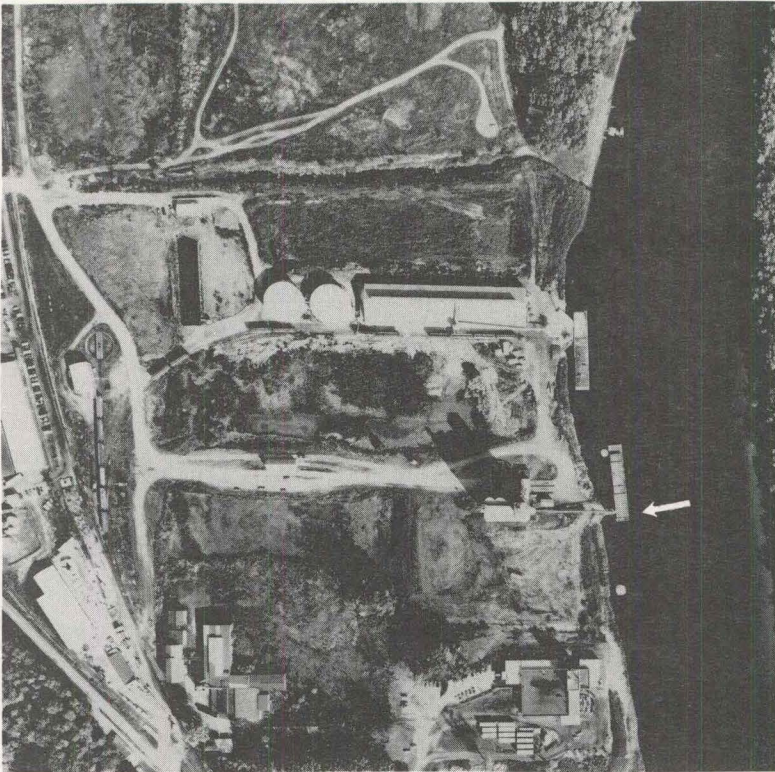
ADDRESS:

P.O. Box 804
Burlington, IA 52601
PHONE: (319)753-2857
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck

About 0.3 mile east of IA
99 on good, gravel road.

NOTES: Ships grain.



MAP REFERENCE NO.: 14
MILES ABOVE OHIO RIVER: 405.3
NAME: Burlington River
Terminal, Inc.

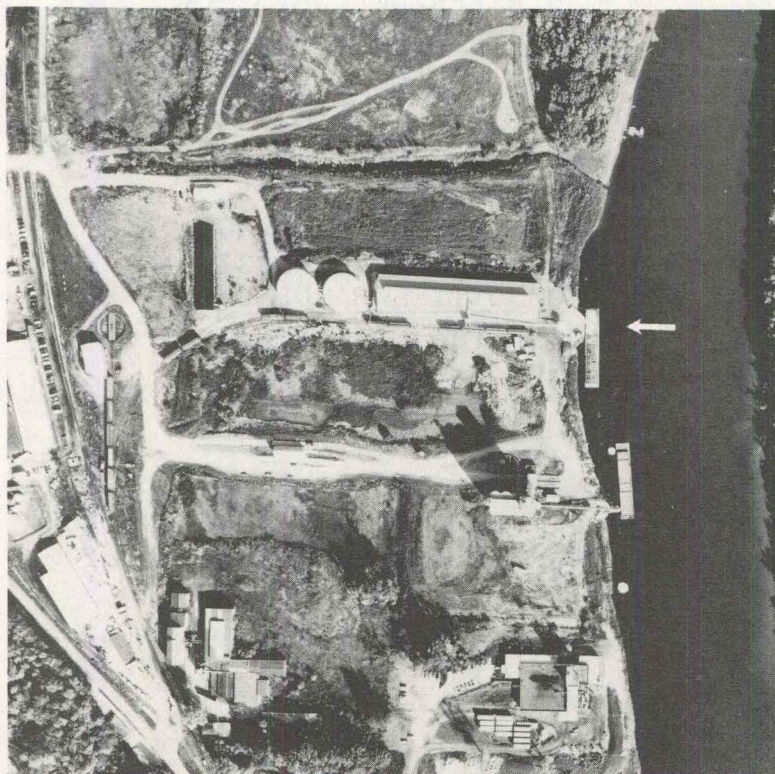
ADDRESS: ATTN: A.G. Stevenson
P.O. Box 884
Burlington, IA 52601
PHONE: (319)752-3611
COMMODITIES HANDLED:

Liquid & dry fertilizers, &
steel.

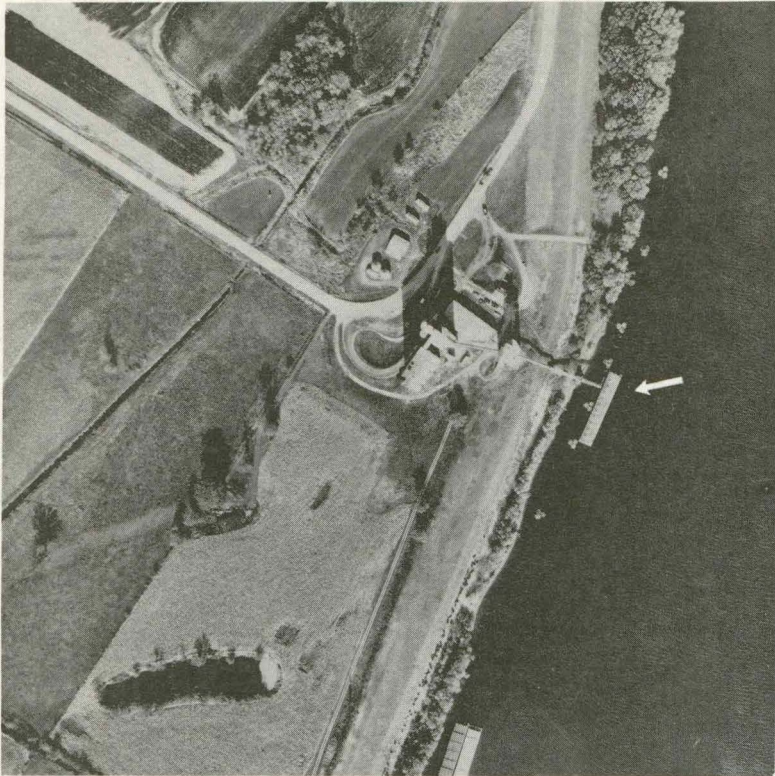
ACCESS: Truck & Rail

East of IA 99 via 0.3 mi. of
good, gravel road; crosses 4
sets of RR tracks.

NOTES: Receives fertilizer &
general commodities.



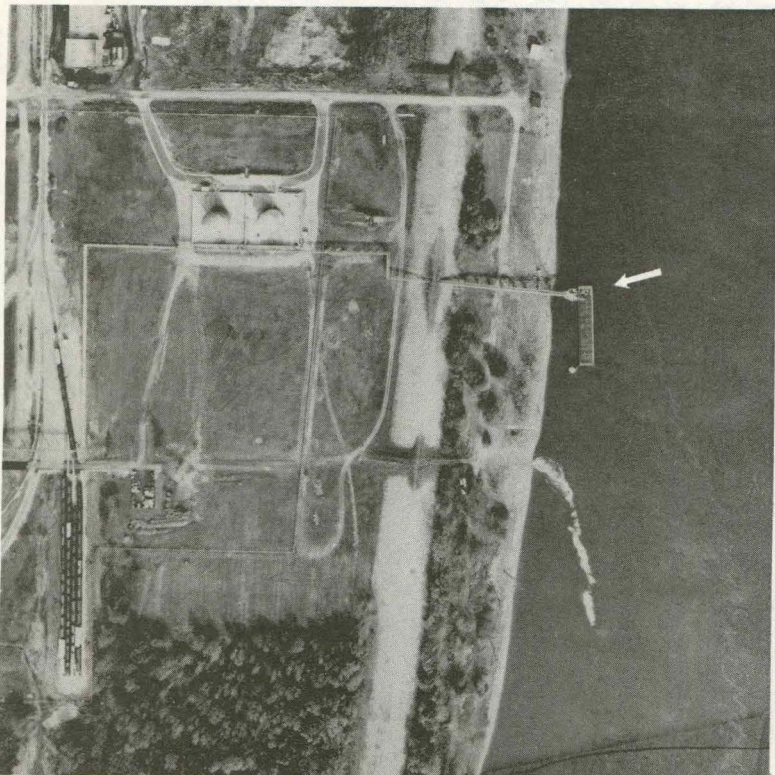
MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 15
MILES ABOVE OHIO RIVER: 418.2
NAME: Farmers Grain Dealers,
Inc.
ADDRESS:
Rural Route 2
Burlington, IA 52601
PHONE: (319)937-6155
COMMODITIES HANDLED:
Corn, soybeans, & wheat.

ACCESS: Truck
East of IA 99 about 6 miles
via level, good, gravel roads.

NOTES: Ships grain.



MAP REFERENCE NO.: 15A
MILES ABOVE OHIO RIVER: 449.9
NAME: Monsanto Agricultural
Products Co.
ADDRESS:
Rural Route 5
Muscatine, IA 52761
PHONE: (319)263-0093
COMMODITIES HANDLED:
Styrene & acrylonitrile.

ACCESS: Truck & Rail
SE of IA 92 about 4 miles
via good, paved & gravel
roads.

NOTES: Receives chemicals for
producing plastics. Barge
operations started in 1976.

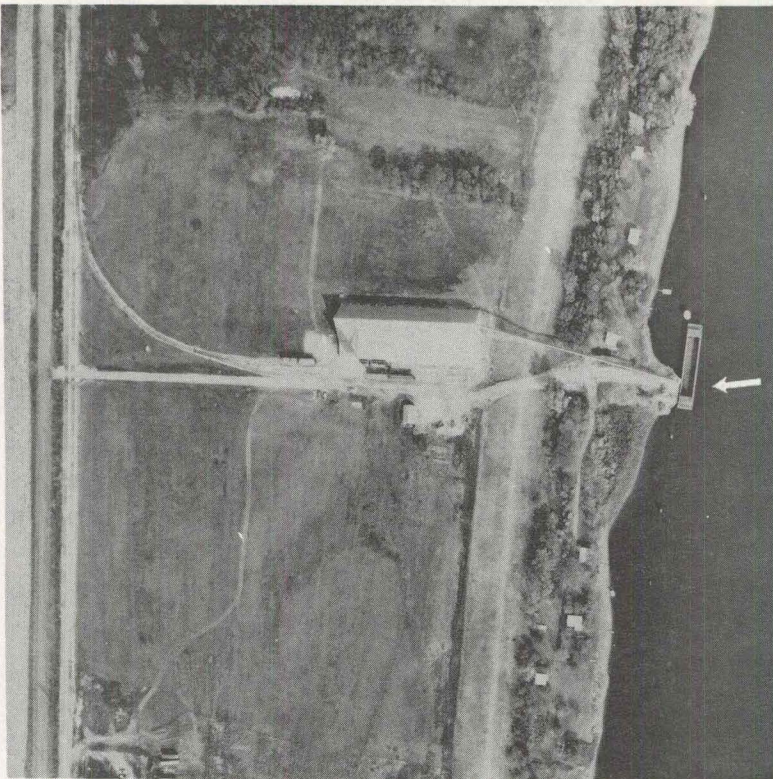
MISSISSIPPI RIVER TERMINALS

MAP REFERENCE NO.: 16
MILES ABOVE OHIO RIVER: 450.3
NAME: Farmland Industries

ADDRESS: Fertilizer Warehouse
Rural Route 5
Muscatine, IA 52761
PHONE: (319) 264-1721
COMMODITIES HANDLED:
Dry fertilizer

ACCESS: Truck & Rail
South of US 61 about 3.5 mi.
via good roads - paved &
gravel.

NOTES: Receives fertilizer.

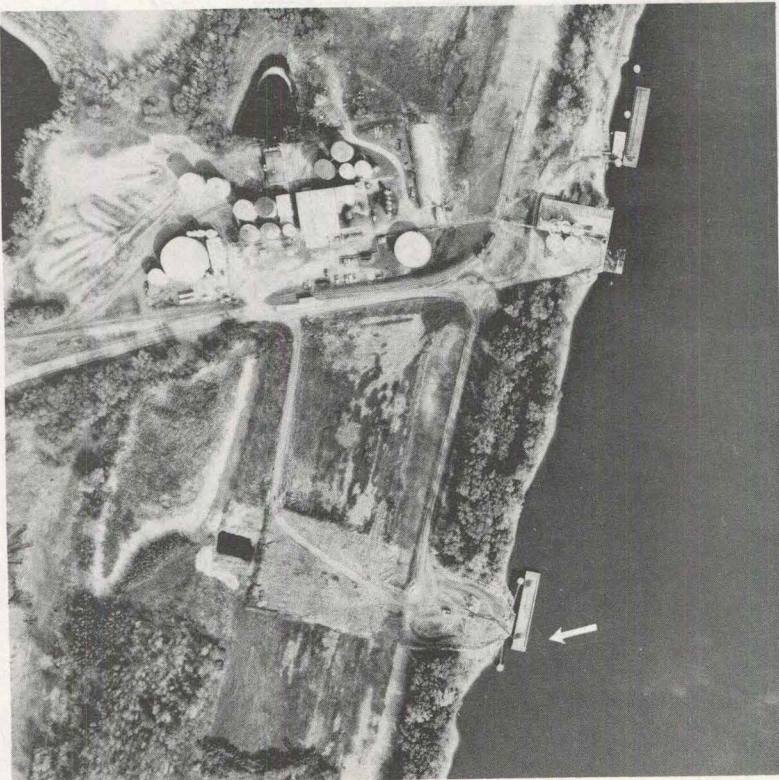


MAP REFERENCE NO.: 17
MILES ABOVE OHIO RIVER: 451.2
NAME: W.G. Block Co.

ADDRESS: (Office)
317 E. 4th
Davenport, IA 52801
PHONE: (319) 326-1651
COMMODITIES HANDLED:
Sand, gravel, rock & stone.

ACCESS: Truck
SE of US 61 via 3.5 mi. of
good roads - paved & gravel.

NOTES: Ships commodities
owned by W.G. Block Co.
New terminal operating in
1976.



MISSISSIPPI RIVER TERMINALS

MAP REFERENCE NO.: 18
MILES ABOVE OHIO RIVER: 451.3
NAME: River Terminal Corp.

ADDRESS:

P.O. Box 1036
Muscatine, IA 52761

PHONE: (319)263-3155

COMMODITIES HANDLED:

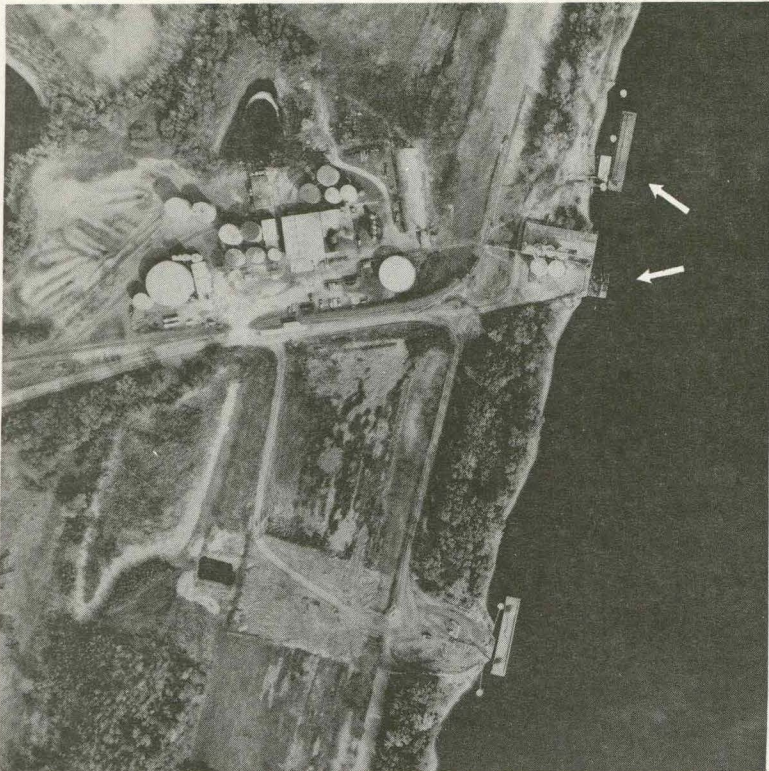
Liquid fertilizer, molasses,
condensed fish solubles,
soybean oil.

ACCESS: Truck & Rail

East of US 61 about 3.5 miles
via good roads - paved &
gravel.

NOTES: Ships & receives
general merchandise.

Adjacent land & storage
leased to other companies.



MAP REFERENCE NO.: 19
MILES ABOVE OHIO RIVER: 452.9
NAME: Muscatine Power & Water
Co.

ADDRESS: (Office)

818 E. 8th Street
Muscatine, IA 52761

PHONE: (319)263-2631

COMMODITIES HANDLED:

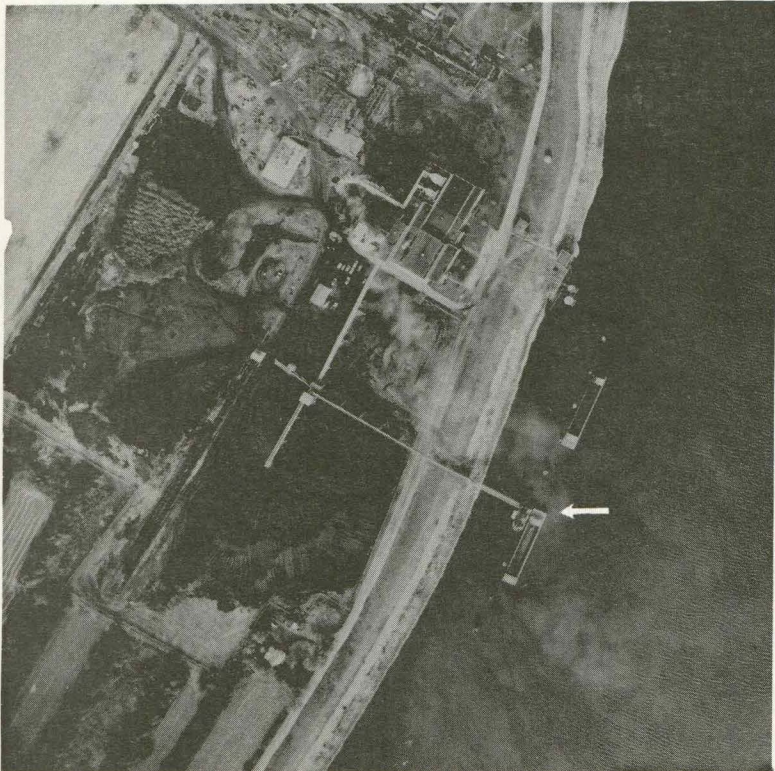
Coal

ACCESS: Rail

East of US 61 about 1.5 miles
via good, paved streets.

NOTES: Receives coal.

All coal used for producing
electricity.



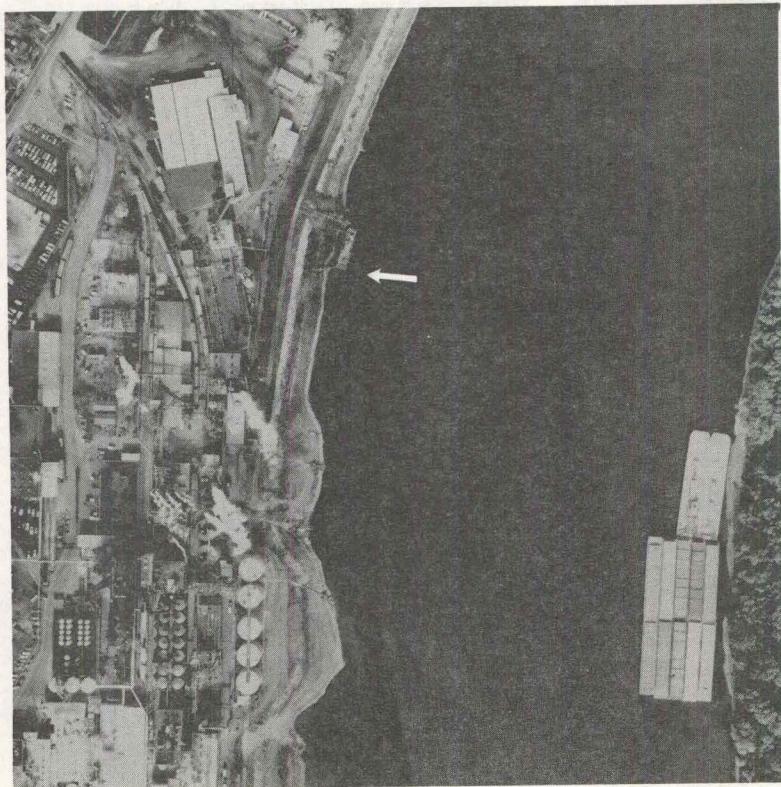
MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 20
MILES ABOVE OHIO RIVER: 453.2
NAME: Farmers Grain Dealers
Association
ADDRESS:
Rural Route 5
Muscatine, IA 52761
PHONE: (319)263-9414
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck & Rail
East of US 61 about 1 mile
via good, paved streets.

NOTES: Ships grain.

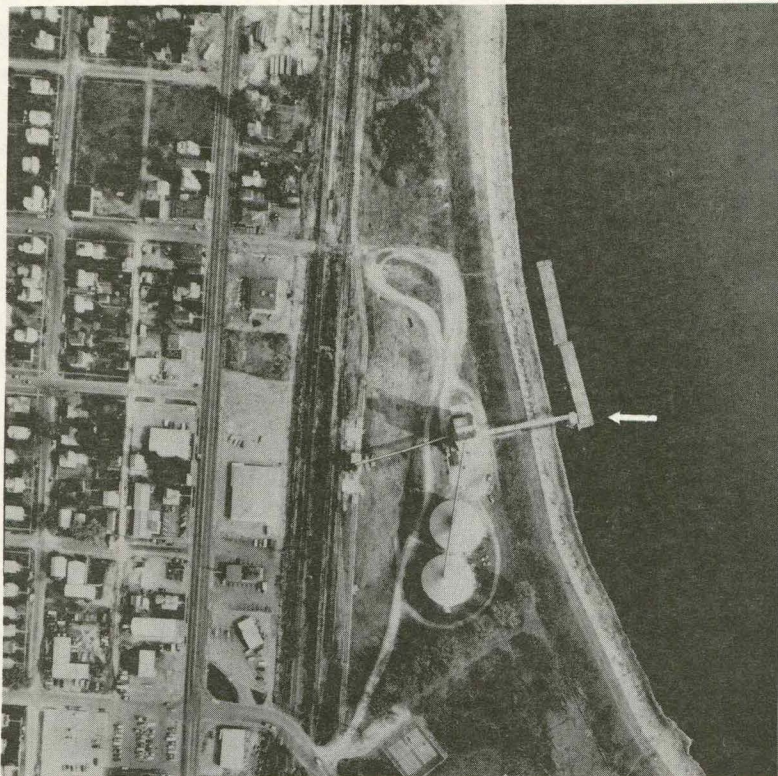


MAP REFERENCE NO.: 21
MILES ABOVE OHIO RIVER: 453.8
NAME: Grain Processing Corp.
ADDRESS:
1600 Oregon Avenue
Muscatine, IA 52761
PHONE: (319)263-1321
COMMODITIES HANDLED:
Alcohol

ACCESS: Truck & Rail
SE of US 61 about 6 blocks
via good, paved streets.

NOTES: Ships alcohol from
corn processing plant.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 22
MILES ABOVE OHIO RIVER: 454.2
NAME: Central Soya Co.

ADDRESS:

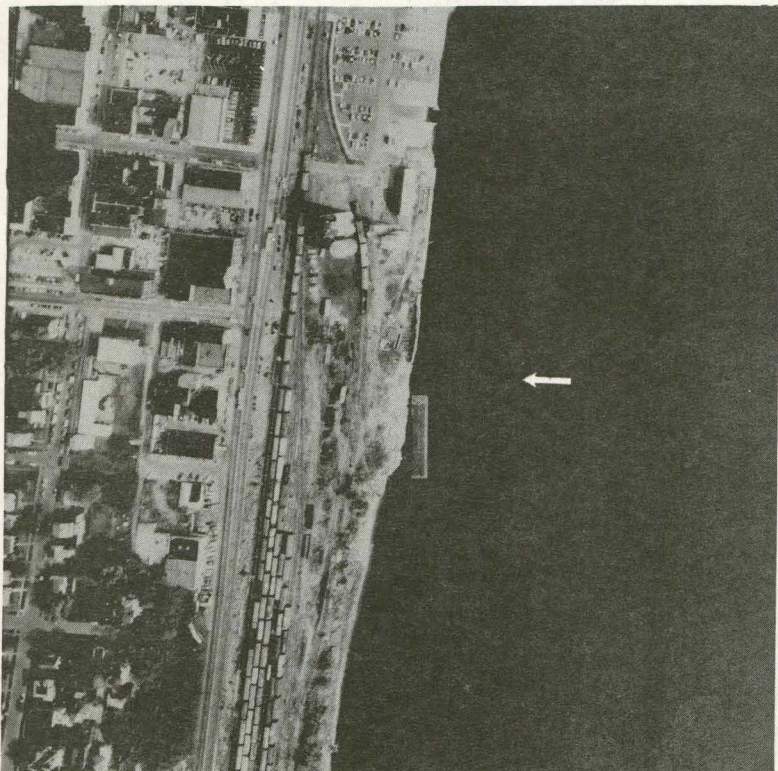
P.O. Box 806
Muscatine, IA 52761
PHONE: (319)263-4343
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck & Rail

East of US 61 about 3 blocks
via paved street across rough
RR tracks & short gravel road.

NOTES: Ships grain.

Operates together with
Central Soya terminal 1 mile
north.



MAP REFERENCE NO.: 24
MILES ABOVE OHIO RIVER: 455.3
NAME: Central Soya Co.

ADDRESS:

P.O. Box 806
Muscatine, IA 52761
PHONE: (319)263-4343
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck & Rail

East of US 61 via short
driveway across RR tracks.

NOTES: Ships grain.

Operates together with
Central Soya terminal 1 mile
south.

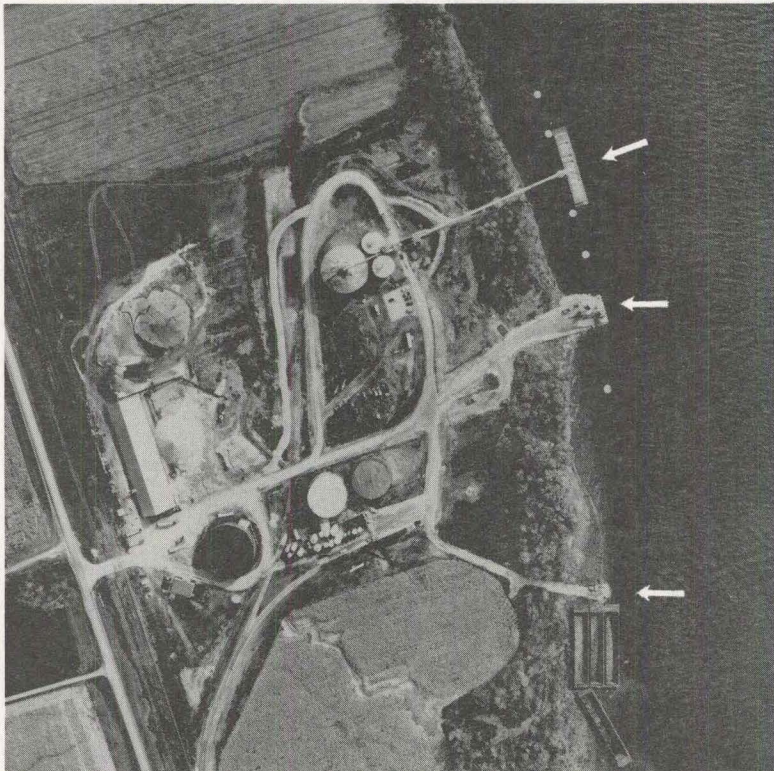
MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 25
MILES ABOVE OHIO RIVER: 468.0
NAME: Eastern Iowa Light &
Power Corporation
ADDRESS:
P.O. Box 110
Montpelier, IA 52759
PHONE: (319)263-6898
COMMODITIES HANDLED:
Coal

ACCESS: Truck
South of IA 22 via short,
paved driveway across rough
RR tracks.

NOTES: Receives coal.
All coal used for producing
electricity.



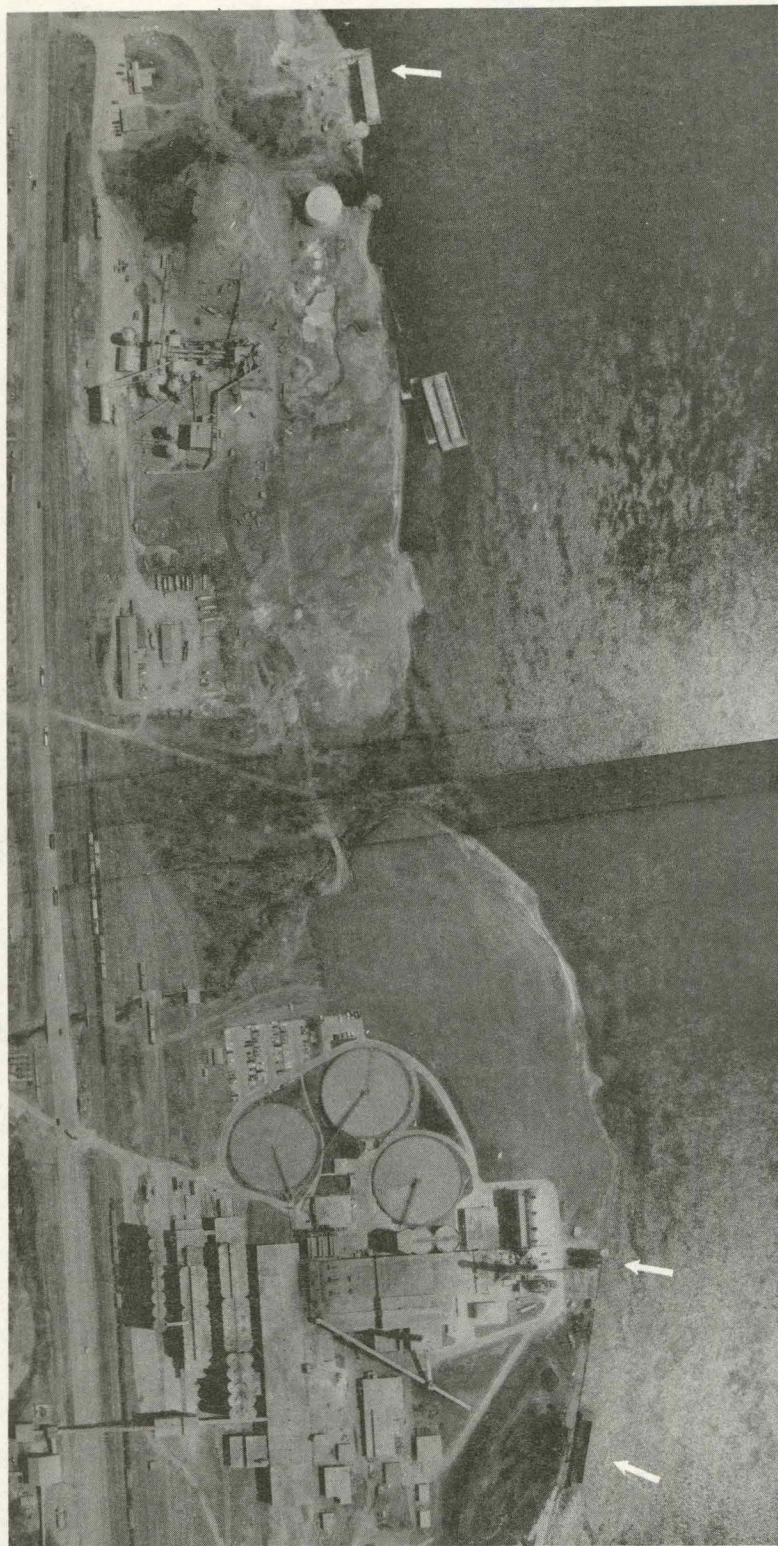
MAP REFERENCE NO.: 26
MILES ABOVE OHIO RIVER: 469.8
NAME: Cargill, Inc.
ADDRESS: Buffalo, IA 52728
PHONE: (319)381-2210(salt)
PHONE: (319)381-2535(molasses)
PHONE: (319)381-2323(grain)
COMMODITIES HANDLED:

Corn, soybeans, soybean
meal, industrial & road salt,
& molasses.

ACCESS: Truck
South of IA 22 via short
gravel driveway across rough
RR tracks.

NOTES: Ships & receives a
variety of commodities.

MISSISSIPPI RIVER TERMINALS

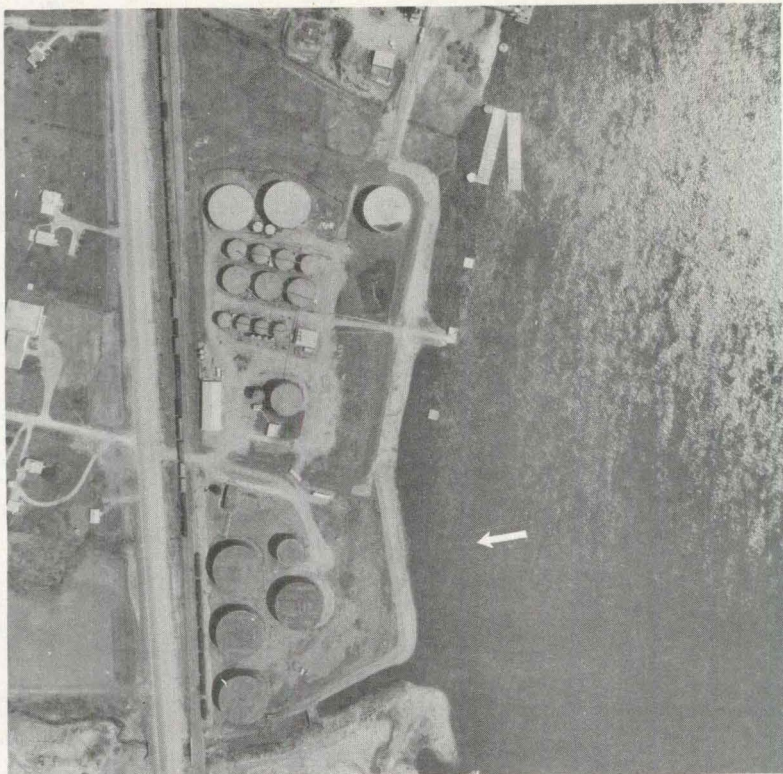


MAP REFERENCE NO.: 27
MILES ABOVE OHIO RIVER: 474.7
NAME: Martin Marietta Cement
(Dewey Portland Cement)
ADDRESS:
606A Davenport Bank Bldg.
Davenport, IA 52808
PHONE: (319)323-2751
COMMODITIES HANDLED:
Coal

ACCESS: Truck & Rail
South of IA 22 via good,
flat, paved driveway across
rough RR tracks.

NOTES: Receives coal.
All coal is used in producing
cement.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 27A
MILES ABOVE OHIO RIVER: 475.4
NAME: MacMillan Oil Co.

ADDRESS:

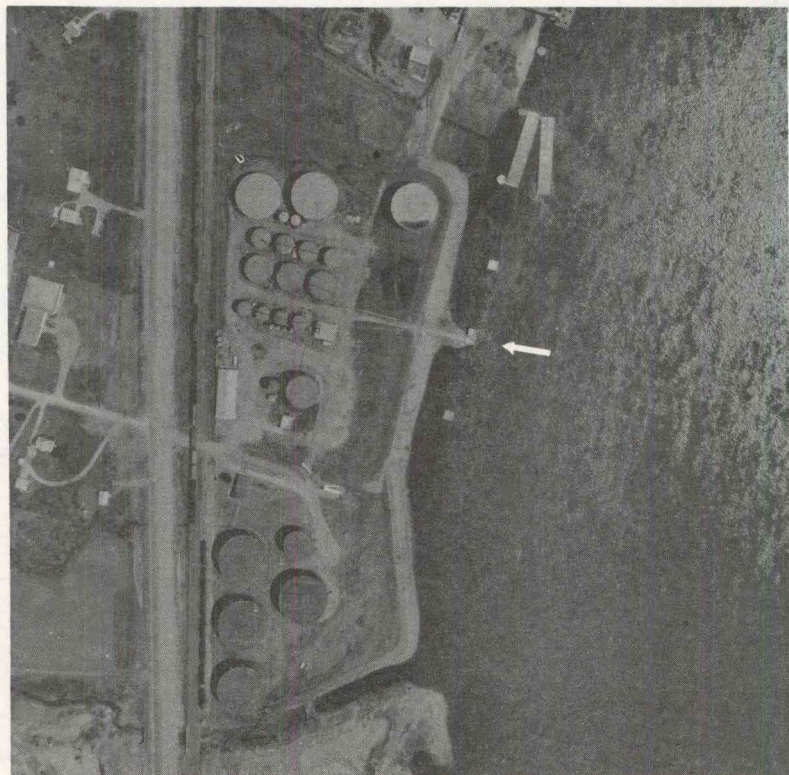
P.O. Box 265
Davenport, IA 52808
PHONE: (319)383-0009
COMMODITIES HANDLED:

Fuel oil

ACCESS: Truck

South of IA 22 via short
driveway across rough RR
tracks.

NOTES: Receives petroleum
products. Barge facilities
to be completed in 1977.



MAP REFERENCE NO.: 28
MILES ABOVE OHIO RIVER: 475.5
NAME: American Oil Co.
(AMOCO)

ADDRESS:

P.O. Box 3397
Davenport, IA 52808
PHONE: (319)324-5276
COMMODITIES HANDLED:

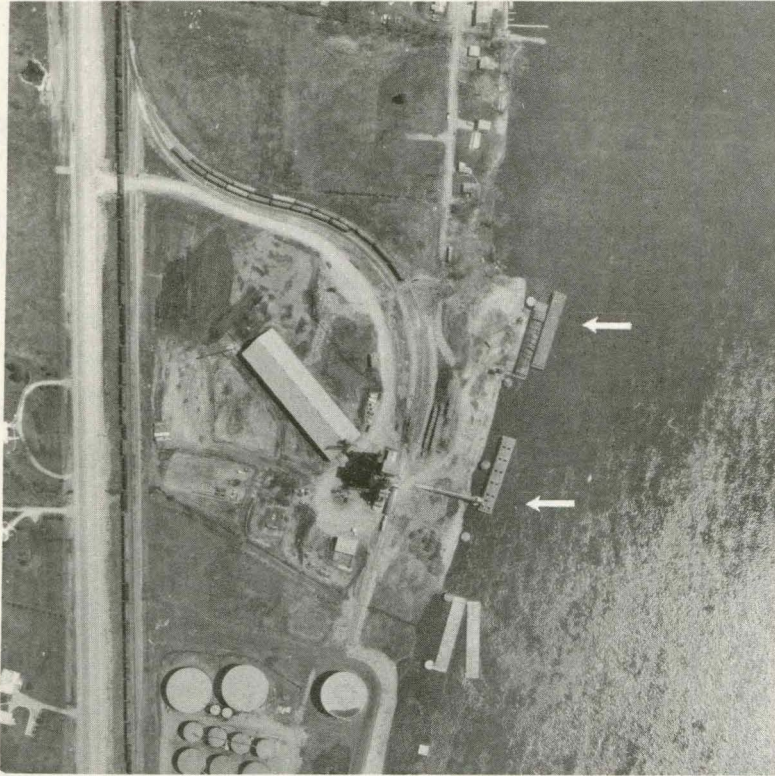
Fuel oil, asphalt &
road oil.

ACCESS: Truck

South of IA 22 via good,
gravel driveway across
rough RR tracks.

NOTES: Receives petroleum
products.

MISSISSIPPI RIVER TERMINALS



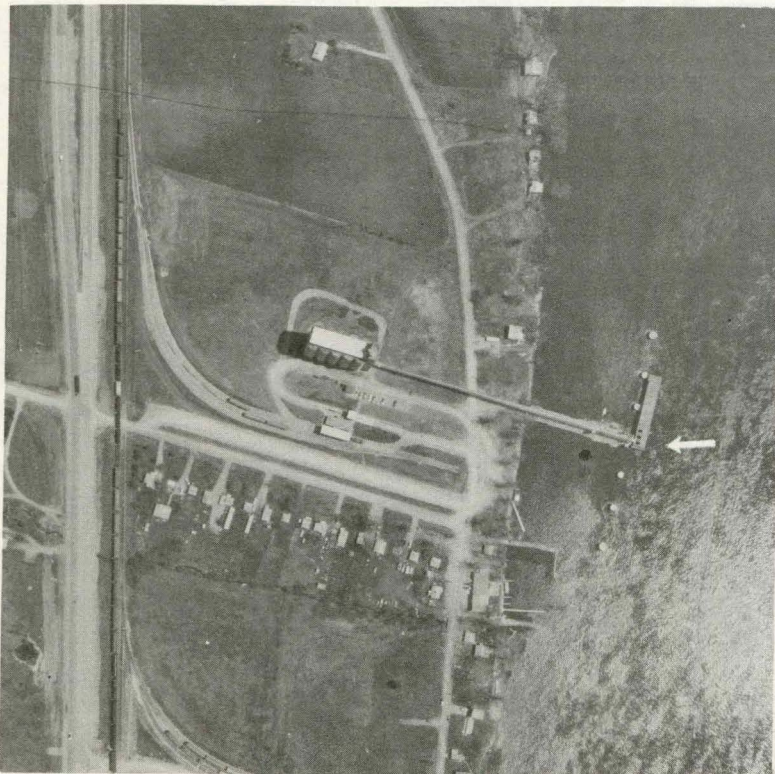
MAP REFERENCE NO.: 29
MILES ABOVE OHIO RIVER: 475.7
NAME: Pillsbury Company

ADDRESS: (Office)
1600 Brady Street
Davenport, IA 52803
PHONE: (319)326-3581

COMMODITIES HANDLED:
Corn, corn screenings, soybeans, wheat, salt, & oak logs.

ACCESS: Truck & Rail
South of IA 22 via good, gravel driveway across rough RR tracks.

NOTES: Ships & receives commodities.



MAP REFERENCE NO.: 30
MILES ABOVE OHIO RIVER: 476.0
NAME: Mississippi River Grain Elevator, Inc.
ADDRESS:

6603 S. Concord
Davenport, IA 52802
PHONE: (319) 324-5214
COMMODITIES HANDLED:

Corn, corn products, & soybeans.

ACCESS: Truck & Rail
South of IA 22 via good, gravel driveway across rough RR tracks.

NOTES: Ships grain.

MISSISSIPPI RIVER TERMINALS

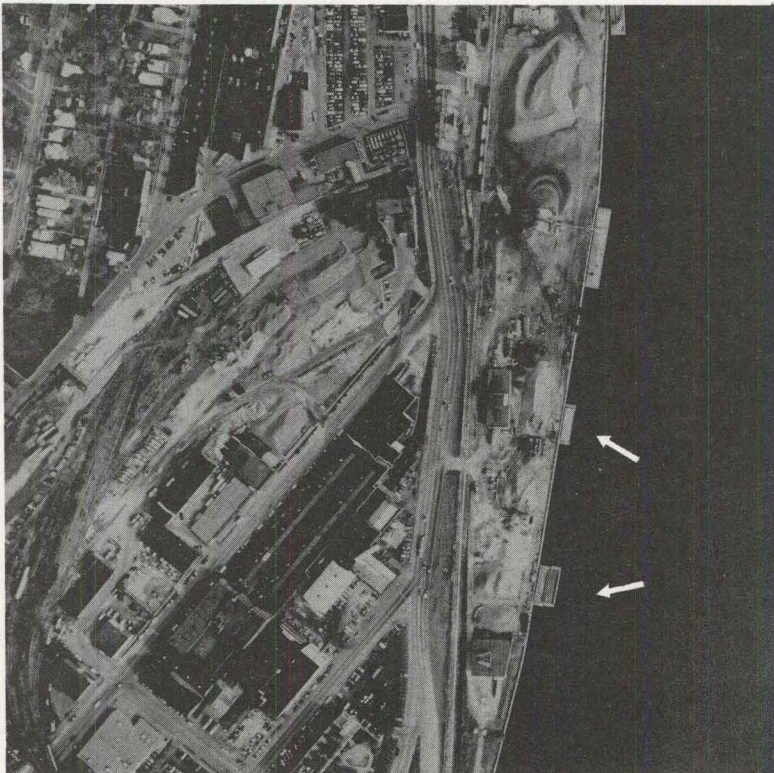
MAP REFERENCE NO.: 31
MILES ABOVE OHIO RIVER: 477.8
NAME: W.G. Block Co.

ADDRESS: (Terminal-S. Concord St.
Office: 317 E. 4th
Davenport, IA 52801
PHONE: (319)326-1651
COMMODITIES HANDLED:
Sand, gravel, crushed rock &
stone.

ACCESS: Truck
East of IA 22 via 2 miles of
hard-surfaced roads.

NOTES: New terminal operating
in 1976.

NO PICTURE
AVAILABLE

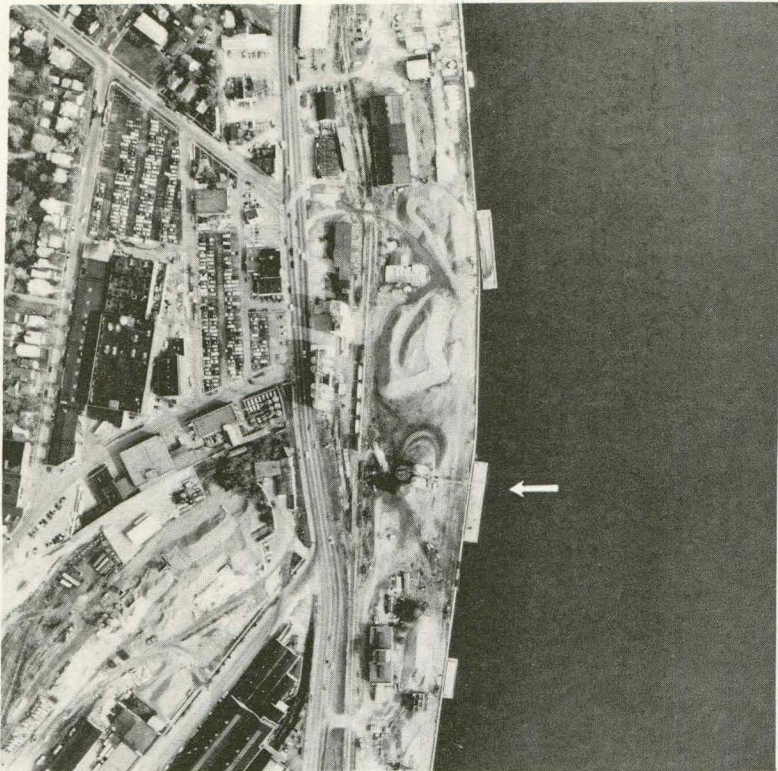


MAP REFERENCE NO.: 32
MILES ABOVE OHIO RIVER: 483.2
NAME: Builders Sand & Gravel
Company
ADDRESS: (Main Office)
104 Western Ave.
Davenport, IA 52801
PHONE: (319)322-1757
COMMODITIES HANDLED:
Sand & gravel.

ACCESS: Truck
South of US 67 via good,
gravel driveway across rough
RR tracks.

NOTES: Receives sand &
gravel dredged from the
Mississippi River.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 33
MILES ABOVE OHIO RIVER: 483.3
NAME: Alter Company

ADDRESS:

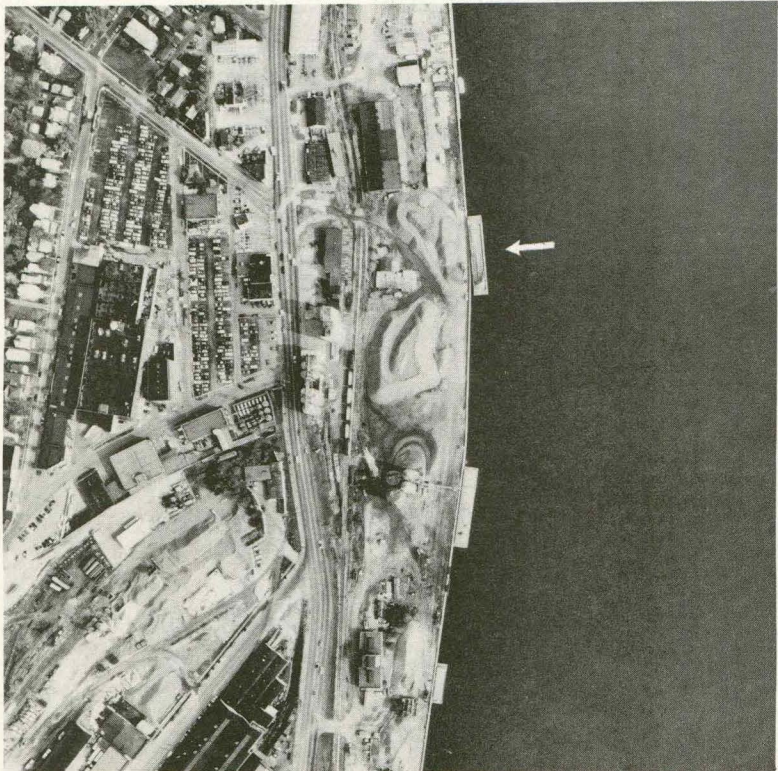
2333 Rockingham Road
Davenport, IA 52802
PHONE: (319)326-2561
COMMODITIES HANDLED:

Corn, soybeans, scrap iron,
car bodies, miscellaneous
steel, & ingots.

ACCESS: Truck & Rail

South of US 67 via good,
gravel driveway across rough
RR tracks.

NOTES: Ships & receives general
commodities for its own
operations & under contract
with other companies.



MAP REFERENCE NO.: 34
MILES ABOVE OHIO RIVER: 483.3
NAME: W.G. Block Co.

ADDRESS: (office)

317 E. 4th
Davenport, IA 52801
PHONE: (319)326-1651
COMMODITIES HANDLED:

Sand, gravel, & stone.

ACCESS: Truck & Rail

South of US 67 via good,
gravel driveway across rough
RR tracks.

NOTES: Receives sand, gravel,
& stone. Land area & dock
purchased from International
Multi-Foods Co. in 1975.
New facilities used in 1976.

MISSISSIPPI RIVER TERMINALS

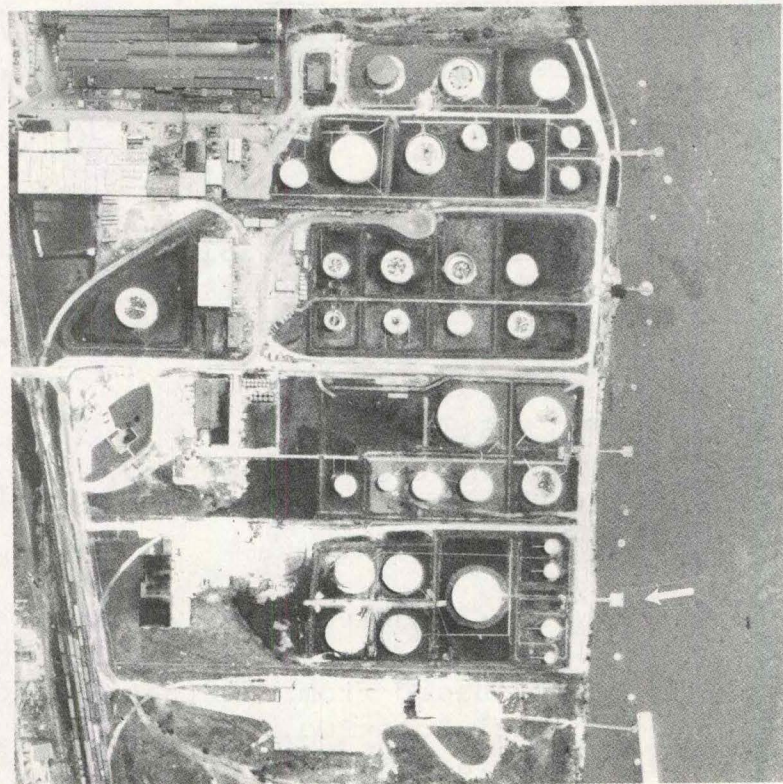


MAP REFERENCE NO.: 35
MILES ABOVE OHIO RIVER: 486.8
NAME: Universal Atlas Cement

ADDRESS:
2871 Depot
Bettendorf, IA 52722
PHONE: (319)359-8237
COMMODITIES HANDLED:
Cement

ACCESS: Truck & Rail
South of US 67 via good,
level, blacktop roads.

NOTES: Receives cement.



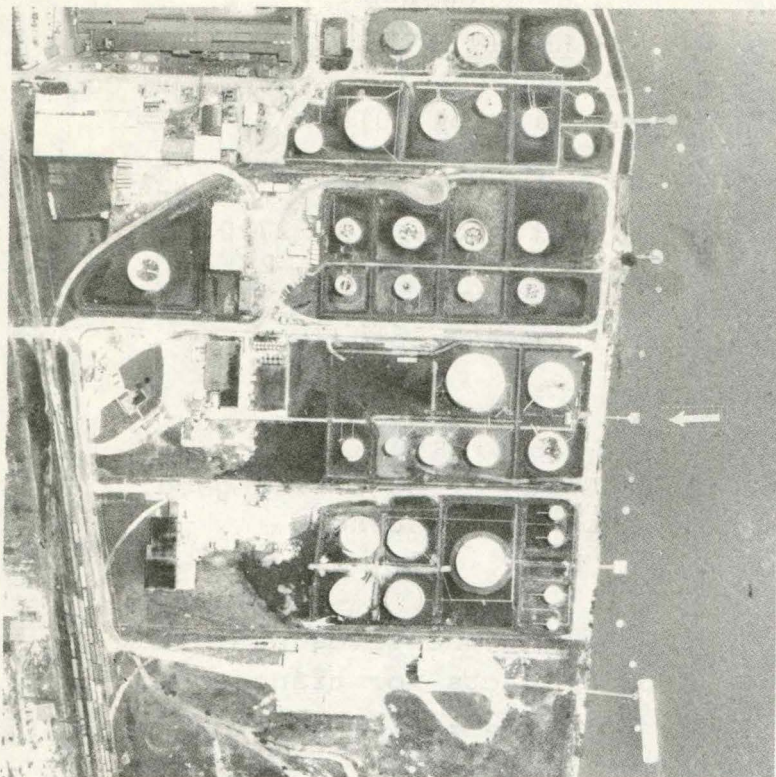
MAP REFERENCE NO.: 36
MILES ABOVE OHIO RIVER: 487.0
NAME: Mobil Oil Company

ADDRESS:
2925 Gilbert Street
Bettendorf, IA 52722
PHONE: (319)355-0255
COMMODITIES HANDLED:
Gasoline & fuel oil.

ACCESS: Truck
South of US 67 via good,
level, blacktop roads.

NOTES: Receives petroleum
products for transfer &
storage.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 37
MILES ABOVE OHIO RIVER: 487.0
NAME: Shell Oil Company

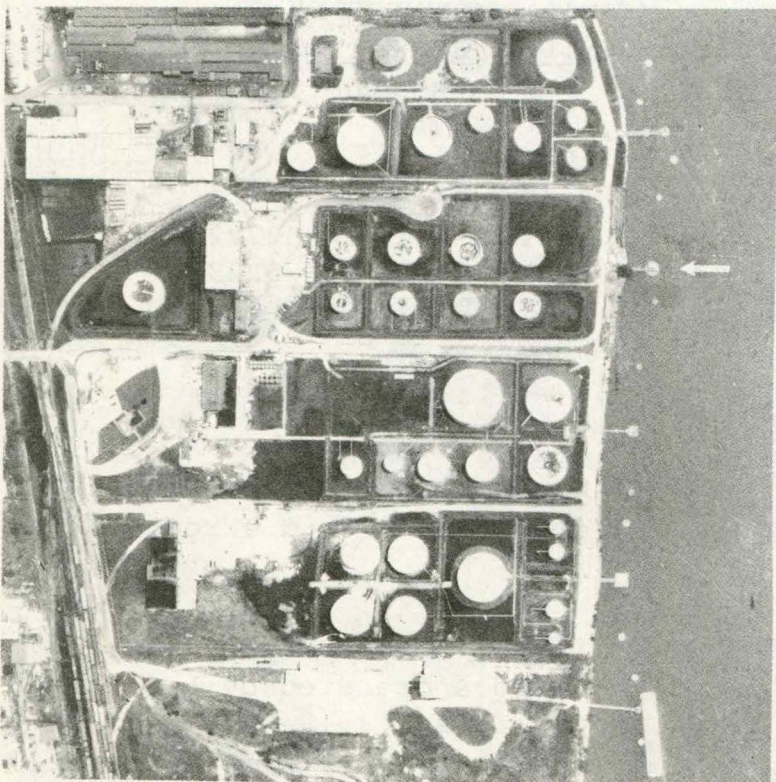
ADDRESS:

Marine Terminal
Bettendorf, IA 52722
PHONE: (319) 355-1835
COMMODITIES HANDLED:
Gasoline, furnace oil,
jet fuel.

ACCESS: Truck

South of US 67 via good, flat,
blacktop roads.

NOTES: Receives petroleum
products for transfer &
storage.



MAP REFERENCE NO.: 38
MILES ABOVE OHIO RIVER: 487.1
NAME: AMOCO Oil Company

ADDRESS:

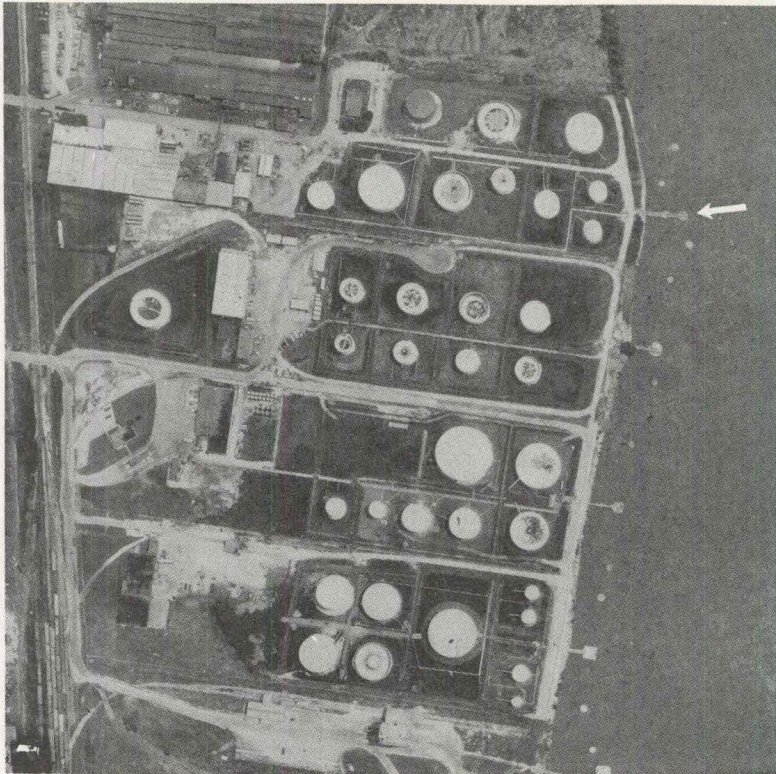
S. 31st Street
Bettendorf, IA 52722
PHONE: (319) 355-2686
COMMODITIES HANDLED:
Petroleum products.

ACCESS: Truck

South of US 67 via good,
flat, balcktop roads.

NOTES: Receives petroleum
products for transfer &
storage.

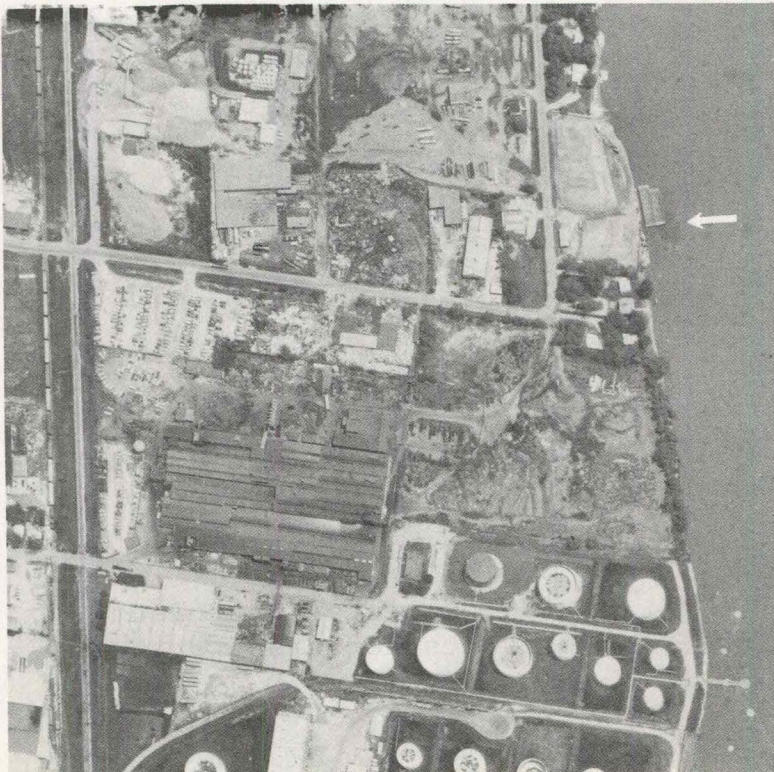
MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 39
MILES ABOVE OHIO RIVER: 487.2
NAME: Phillips Petroleum Co.
(Phillips 66)
ADDRESS:
Box M
Bettendorf, IA 52722
PHONE: (319) 355-2654
COMMODITIES HANDLED:
Petroleum products.

ACCESS: Truck
South of US 67 via good,
blacktop street.

NOTES: Receives petroleum
products for transfer &
storage.

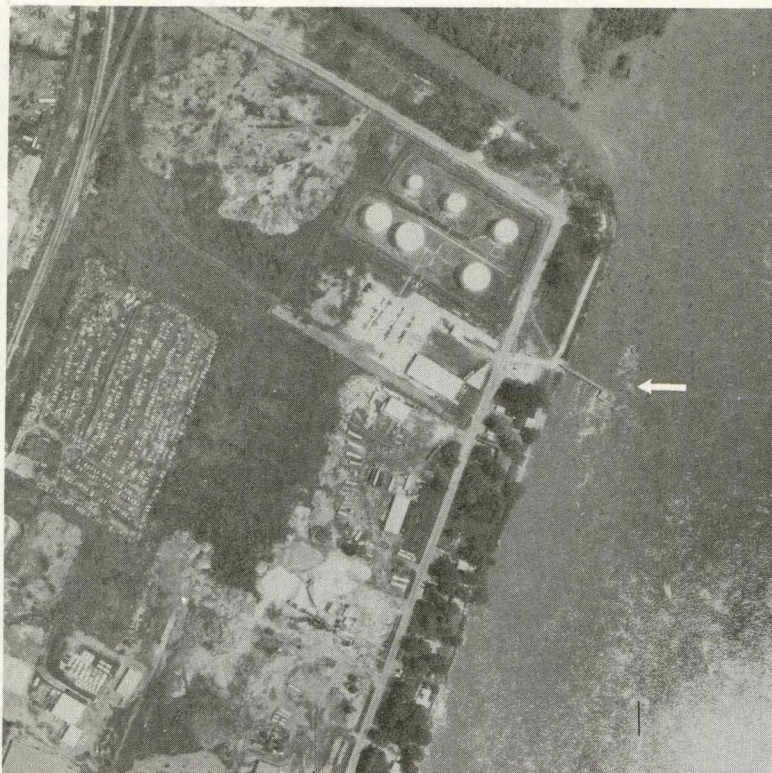


MAP REFERENCE NO.: 40
MILES ABOVE OHIO RIVER: 487.5
NAME: Bettendorf Terminal Co.
ADDRESS:
3623 Elm Street
Bettendorf, IA 52722
PHONE: (319) 355-6223
COMMODITIES HANDLED:
Sand

ACCESS: Truck
South of US 67 via 0.4 mi.
of hard-surfaced streets.

NOTES: Receives sand.
Owned & operated by LeClaire
Quarries.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 41
MILES ABOVE OHIO RIVER: 487.7
NAME: The Texaco Company

ADDRESS:

Mississippi Point
Bettendorf, IA 52722
PHONE: (319)355-0271
COMMODITIES HANDLED:

Gasoline

ACCESS: Truck

South of US 67 via 0.8 mile
of good paved streets.

NOTES: Receives petroleum
products.



MAP REFERENCE NO.: 42
MILES ABOVE OHIO RIVER: 488.5
NAME: Union Oil Company

(W.H. Barber Co.)

ADDRESS:

S. Bellingham Street
Bettendorf, IA 52722
PHONE: (319) 355-2931
COMMODITIES HANDLED:

Petroleum products.

ACCESS: Truck

SE of US 67 about 0.5 mile
via good city streets.

NOTES: Received all petroleum
by pipeline in recent years
& does not use barge facility.

MISSISSIPPI RIVER TERMINALS

MAP REFERENCE NO.: 43
MILES ABOVE OHIO RIVER: 498.2
NAME: LeClaire Quarries, Inc.

ADDRESS:

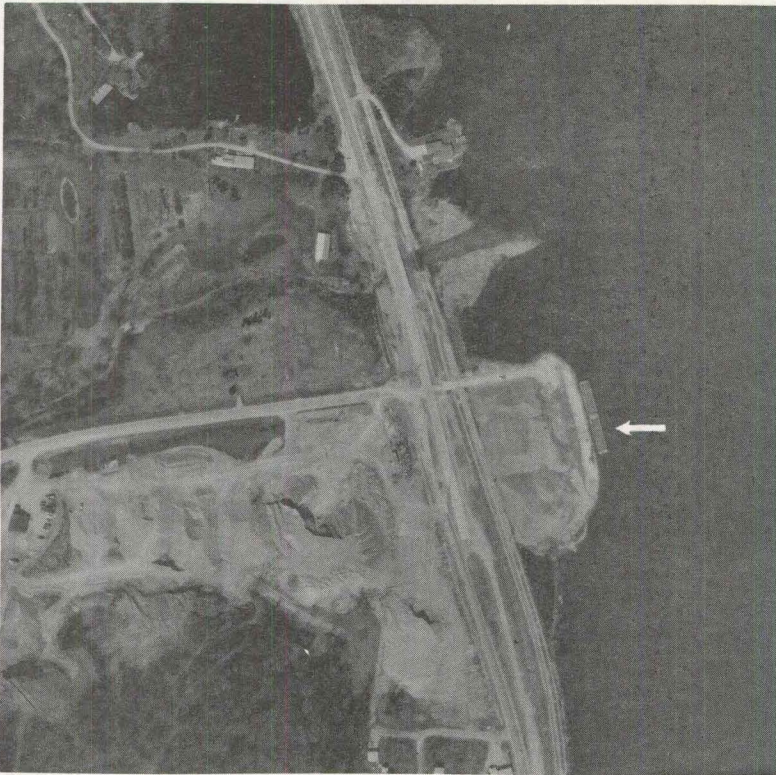
P.O. Box 206
LeClaire, IA 52753
PHONE: (319)289-4214
COMMODITIES HANDLED:

Sand & rock.

ACCESS: Truck

East of US 67 on good
driveway across rough RR
tracks.

NOTES: Ships & receives
sand & rock.



MAP REFERENCE NO.: 44
MILES ABOVE OHIO RIVER: 512.2
NAME: Determann Industries,
Inc.

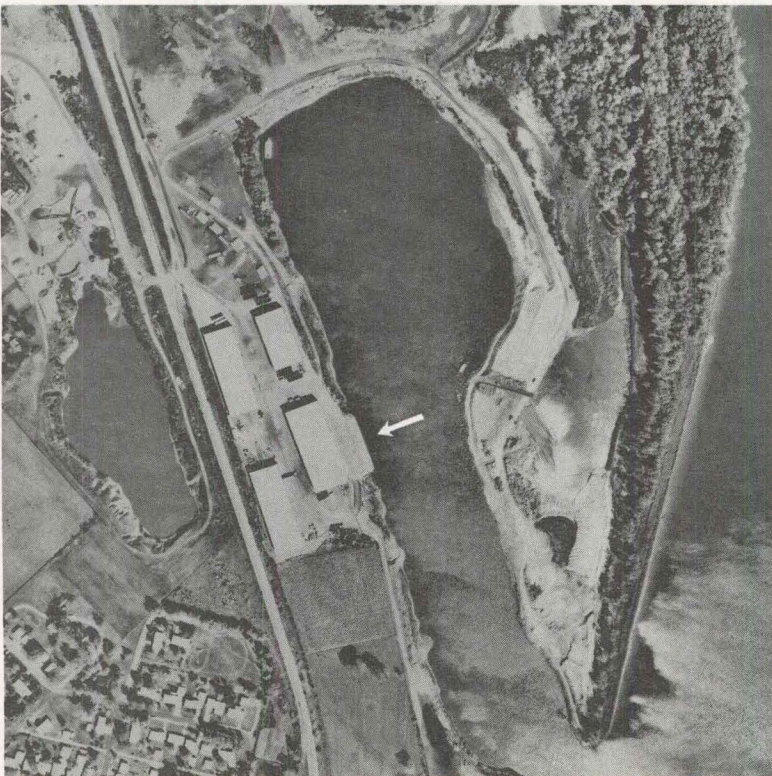
ADDRESS:

1425 N. Washington
Camanche, IA 52730
PHONE: (319)259-8311
COMMODITIES HANDLED:
Aluminum, machinery,
fertilizer, urea, & others.

ACCESS: Truck & Rail

East of US 67 via good,
gravel driveway.

NOTES: Shipping & receiving
agent.



MISSISSIPPI RIVER TERMINALS

MAP REFERENCE NO.: 45
MILES ABOVE OHIO RIVER: 513.5
NAME: W.G. Block Co.
(Acme Aggregates)
ADDRESS: (Terminal-Camanche, IA)
Office-317 E. 4th
Davenport, IA 52801
PHONE: (319)326-1651
COMMODITIES HANDLED:
Sand, gravel, & crushed
rock & stone.

NO PICTURE
AVAILABLE

ACCESS: Truck
East of US 67 via 3/4 mile,
gravel road.

NOTES: New facility being
developed.



MAP REFERENCE NO.: 46
MILES ABOVE OHIO RIVER: 513.9
NAME: E.I. DuPont DeNemours,
Inc.
ADDRESS:
P.O. Box 451
Clinton, IA 52732
PHONE: (319)242-4421
COMMODITIES HANDLED:
Caustic soda

ACCESS: Rail
East of US 67 via good, paved
driveway.

NOTES: Receives caustic soda
for use in manufacturing
cellophane and film materials.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 47
MILES ABOVE OHIO RIVER: 514.2
NAME: Interstate Power Co.

ADDRESS: M.L. Kapp Station
2001 Beaver Channel Pkwy.
Clinton, IA 52732
PHONE: (319)243-2611
COMMODITIES HANDLED:
Coal

ACCESS: Rail
South of US 30 via very
rough, gravel street.

NOTES: Receives coal.
All coal used for producing
electricity.



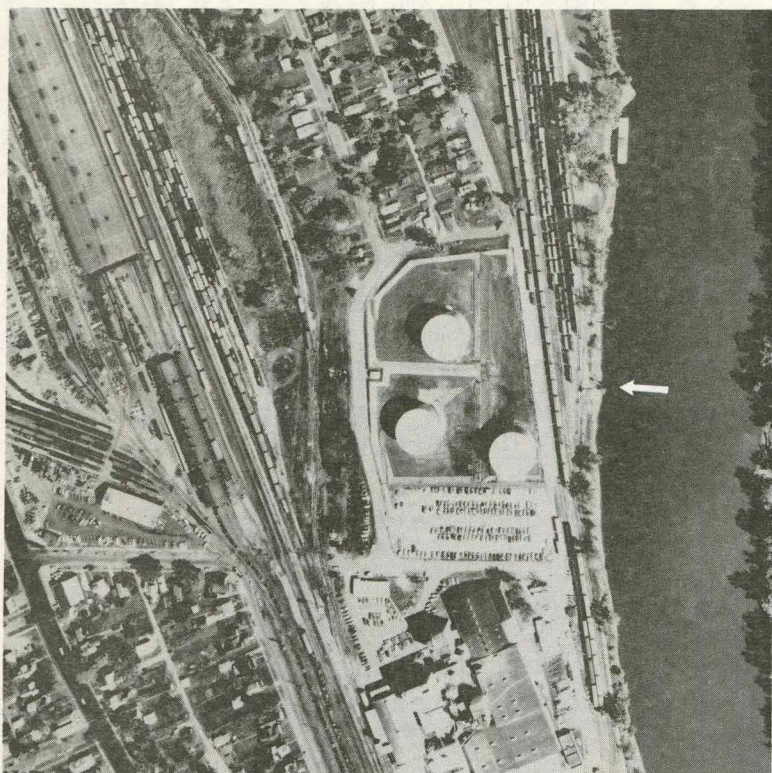
MAP REFERENCE NO.: 48
MILES ABOVE OHIO RIVER: 517.2
NAME: Peavy Company

ADDRESS:
1811 S. 4th Street
Clinton, IA 52732
PHONE: (319)242-5251
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck
South of US 30 via 6 blocks
of good, paved streets.

NOTES: Ships grain.
The facilities were purchased
from Fronings, Inc. in 1975.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 49
MILES ABOVE OHIO RIVER: 517.5
NAME: Clinton Corn Processing

ADDRESS:

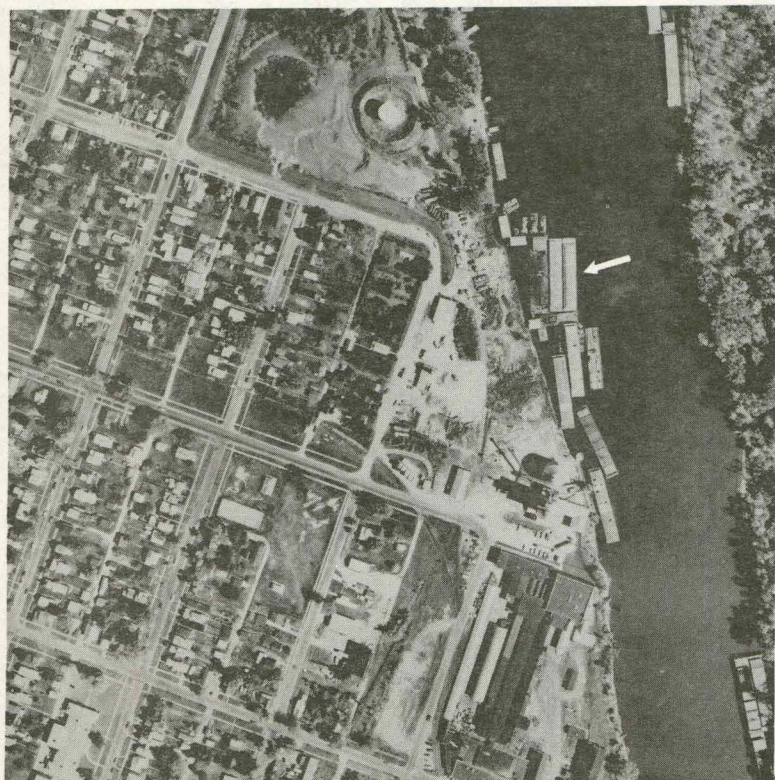
P.O. Box 340
Clinton, IA 52732
PHONE: (319)242-1121
COMMODITIES HANDLED:

Fuel oil

ACCESS: Truck & Rail

South of US 30 on good, paved streets.

NOTES: Receives fuel oil for use at the corn processing plant.



MAP REFERENCE NO.: 50
MILES ABOVE OHIO RIVER: 517.7
NAME: Lewis & Lawson Harbor

Service
ADDRESS:

17th Ave. S. & River St.
Clinton, IA 52732
PHONE: (319)242-1646
COMMODITIES HANDLED:

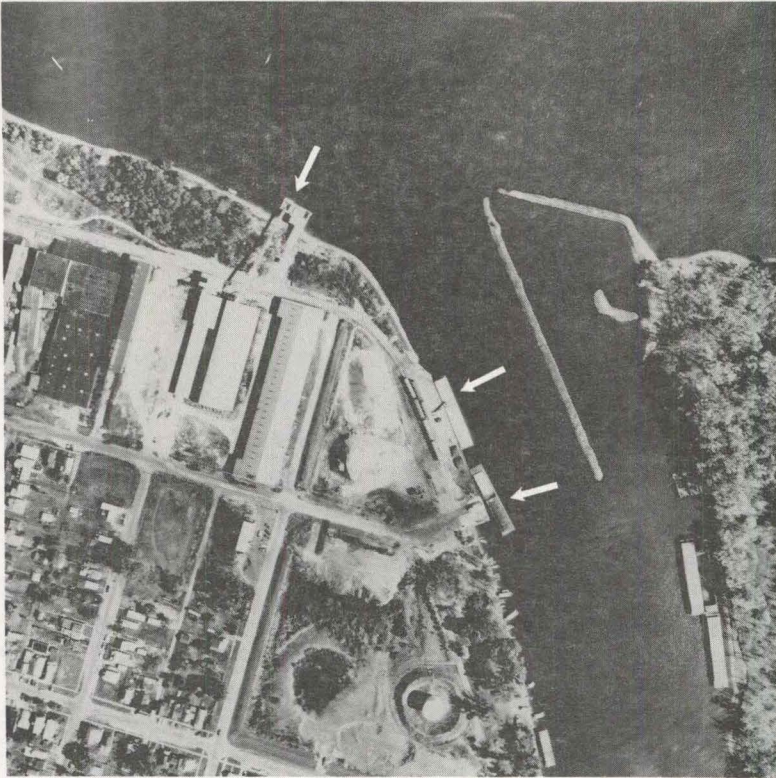
Barge handling services.

ACCESS:

South of US 30 via 6 blocks of good paved streets & 1 block on gravel street.

NOTES: Groups, moves, cleans, and repairs barges.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 51
MILES ABOVE OHIO RIVER: 517.5

NAME: CF Industries, Inc.
(Municipal Dock)

ADDRESS:

204-15th Ave., S.
Clinton, IA 52732

PHONE: (319)242-0962

COMMODITIES HANDLED:

Soybean meal, corn feed pellets,
beet pulp pellets, petroleum by-
products, fertilizer & salt.

ACCESS: Truck & Rail

South of US 30 via 7 blocks
of good, paved streets.

NOTES: Shipping & receiving
agent for all classes of
commodities. The dock facilities
are leased from the City of
Clinton.



MAP REFERENCE NO.: 52

MILES ABOVE OHIO RIVER: 521.0

NAME: CF Industries, Inc.

(Carnes Oil Co.)

ADDRESS:

31st Ave., N. & River St.
Clinton, IA 52732

PHONE: (319)242-0433

COMMODITIES HANDLED:

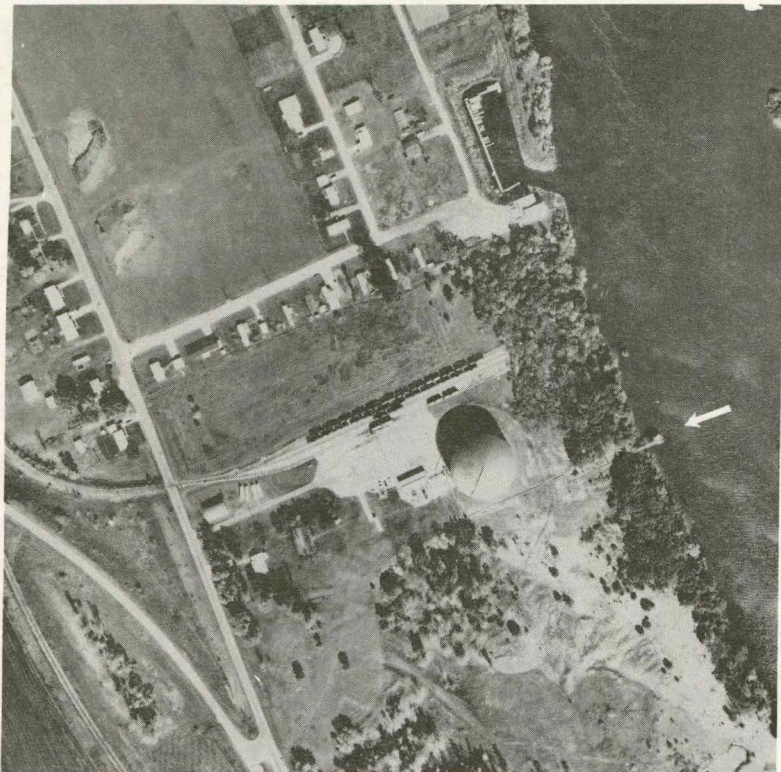
Nitrogen

ACCESS: Truck & Rail

East of US 67 about 6 blocks
via good streets (paved &
gravel).

NOTES: Receives nitrogen.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 54
MILES ABOVE OHIO RIVER: 559.0
NAME: USS Agri-Chemicals Co.

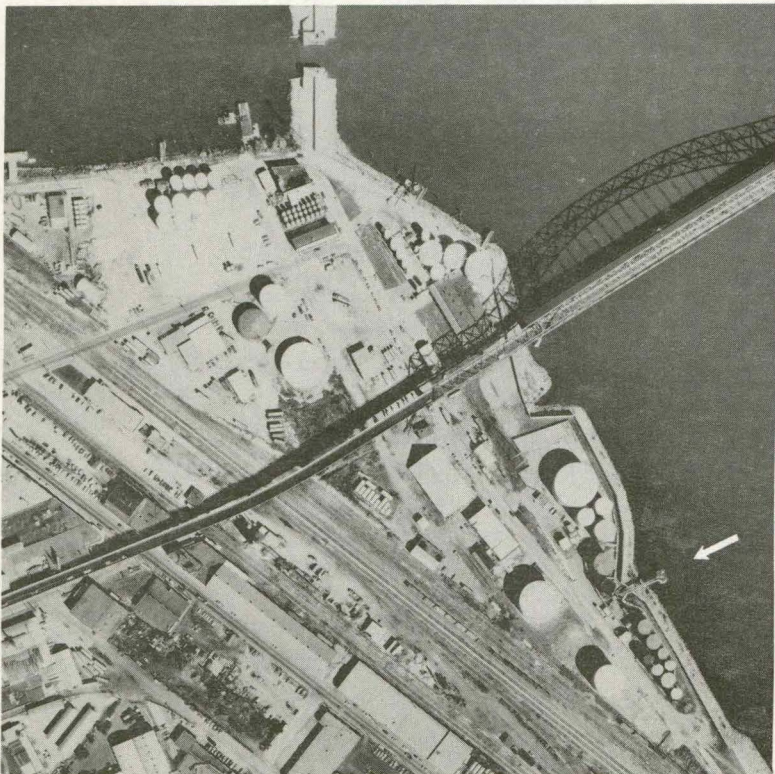
ADDRESS:

R.F.D. 2
Bellevue, IA 52031
PHONE: (319)872-3218
COMMODITIES HANDLED:
Anhydrous ammonia.

ACCESS: Truck & Rail

East of US 52 & 67 via $\frac{1}{4}$
mile of good, asphalt road.

NOTES: Receives anhydrous
ammonia.



MAP REFERENCE NO.: 55
MILES ABOVE OHIO RIVER: 579.2
NAME: Sinclair Marketing, Inc.

ADDRESS:

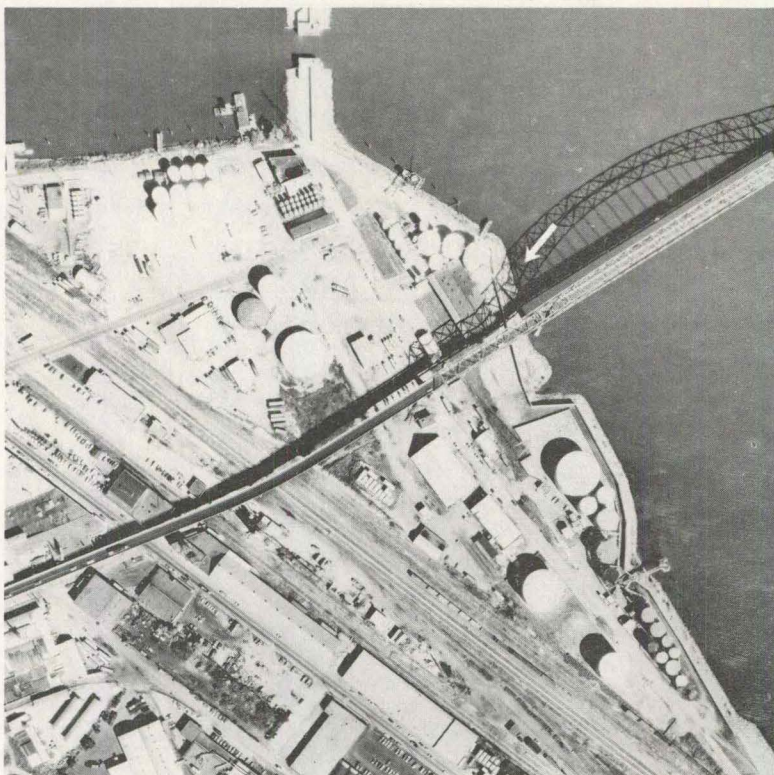
200 Terminal St.
Dubuque, IA 52001
PHONE: (319)583-9718
COMMODITIES HANDLED:
Asphalt, gas, & fuel oil.

ACCESS: Truck

East of US 52 via about 6
blocks of good, paved streets.

NOTES: Receives petroleum
products.

MISSISSIPPI RIVER TERMINALS



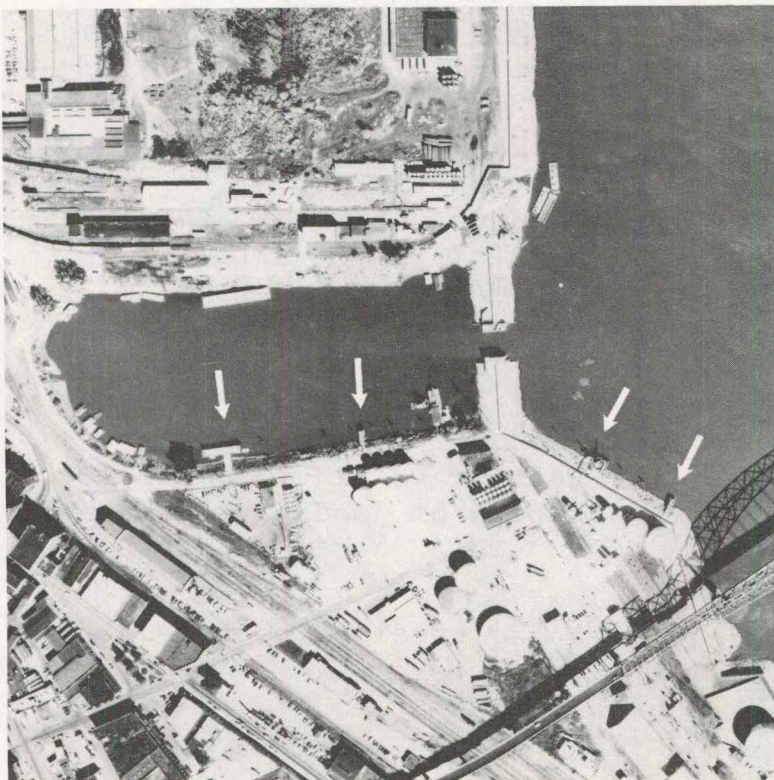
MAP REFERENCE NO.: 56
MILES ABOVE OHIO RIVER: 579.3
NAME: Dubuque Twine Company

ADDRESS:

Jones & Terminal St.
Dubuque, IA 52001
PHONE: (319)583-9701
COMMODITIES HANDLED:
Baler twine

ACCESS: Truck & Rail
East of US 52 via about 5
blocks of good, paved streets.

NOTES: Receives twine.
Dock and storage area owned
by the City of Dubuque.



MAP REFERENCE NO.: 57
MILES ABOVE OHIO RIVER: 579.4
NAME: Dubuque Tank Terminal Co.

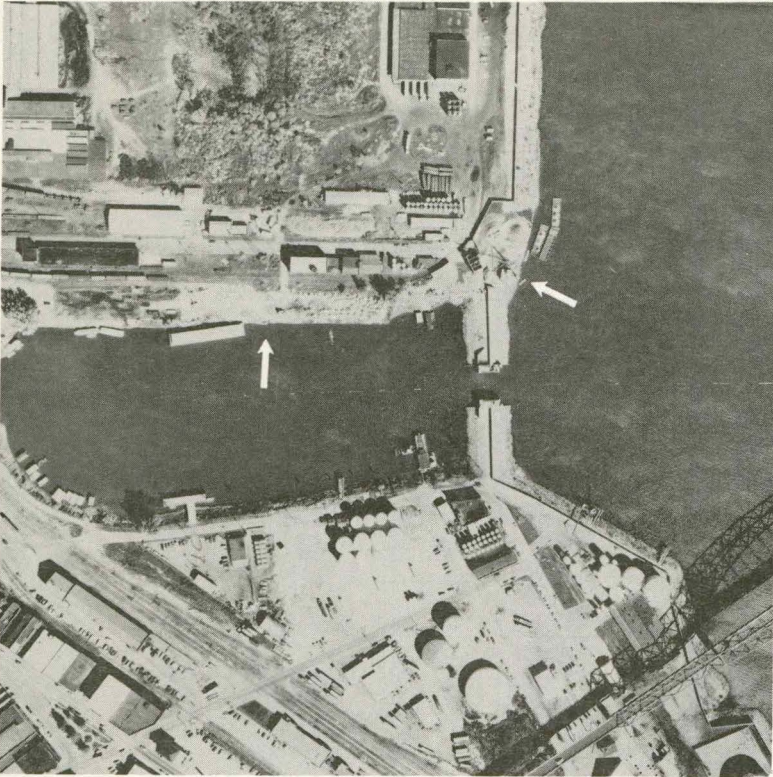
ADDRESS:

Jones & Terminal St.
Dubuque, IA 52001
PHONE: (319)583-6457
COMMODITIES HANDLED:
Lard, grease, tallow,
fertilizer, molasses, &
salt.

ACCESS: Truck & Rail
East of US 52 via about 4
blocks of good, paved streets.

NOTES: Ships & receives a
variety of commodities.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 58
MILES ABOVE OHIO RIVER: 579.5
NAME: Molo Sand & Gravel Co.

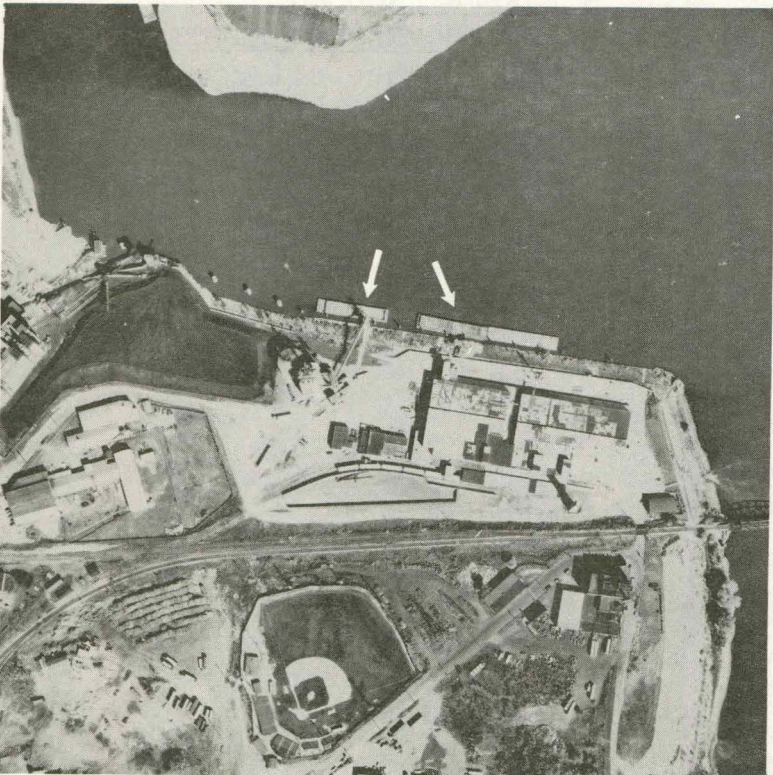
ADDRESS: (Plant: end of 3rd St.)

Office: 41 Main St.
Dubuque, IA 52001
PHONE: (319)582-3611
COMMODITIES HANDLED:
Sand & gravel.

ACCESS: Truck

East of US 52 via about 4
blocks of bumpy brick streets
& across 9 RR tracks.

NOTES: Receives sand & gravel
which is dredged from the
Mississippi River.



MAP REFERENCE NO.: 59
MILES ABOVE OHIO RIVER: 580.0
NAME: Pillsbury Company

ADDRESS:

E. 7th & Commercial St.
Dubuque, IA 52001

PHONE: (319)556-4245

COMMODITIES HANDLED:

Corn, soybeans, & fertilizer.

ACCESS: Truck & Rail

East of US 52 via 6 blocks
of good, paved streets & 6
blocks of rough gravel &
brick streets.

NOTES: Ships & receives
commodities.

MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 60
MILES ABOVE OHIO RIVER: 580.0
NAME: Interstate Power Co.

ADDRESS:

1000 Main St.
Dubuque, IA 52001
PHONE: (319)582-5421
COMMODITIES HANDLED:

Coal

ACCESS: Rail (not used)

East of US 52 via about 6
blocks of good paved streets.

NOTES: Receives coal.

All coal used for producing
electricity.



MAP REFERENCE NO.: 61
MILES ABOVE OHIO RIVER: 580.1
NAME: Dubuque Oil Company

ADDRESS: (12th St. Extension)

Box 921
Dubuque, IA 52001
PHONE: (319)582-8883
COMMODITIES HANDLED:

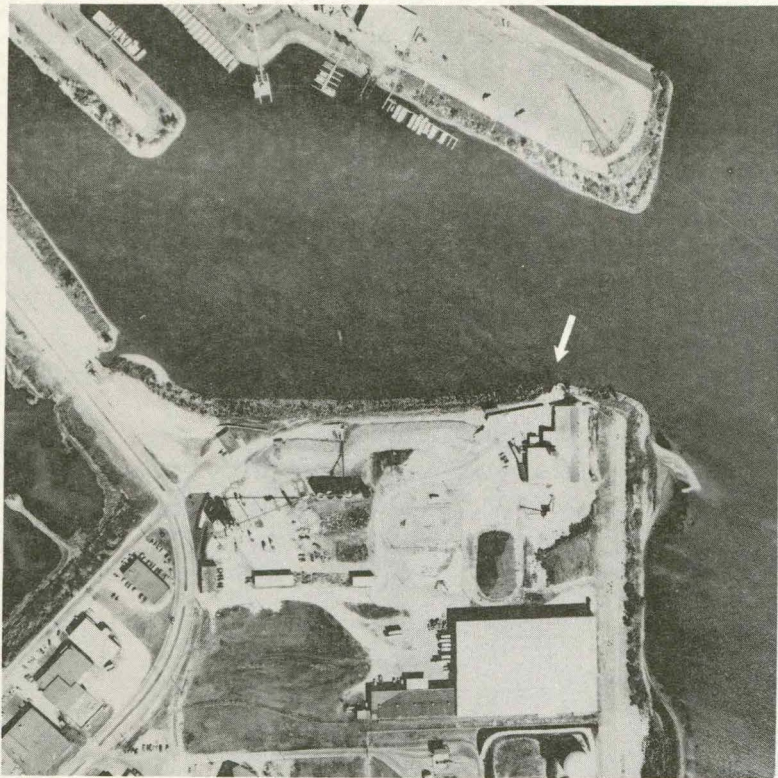
Gasoline & fuel oil.

ACCESS: Truck

East of US 52 via good,
paved streets.

NOTES: Receives petroleum
products. Owned by Koch
Industries.

MISSISSIPPI RIVER TERMINALS

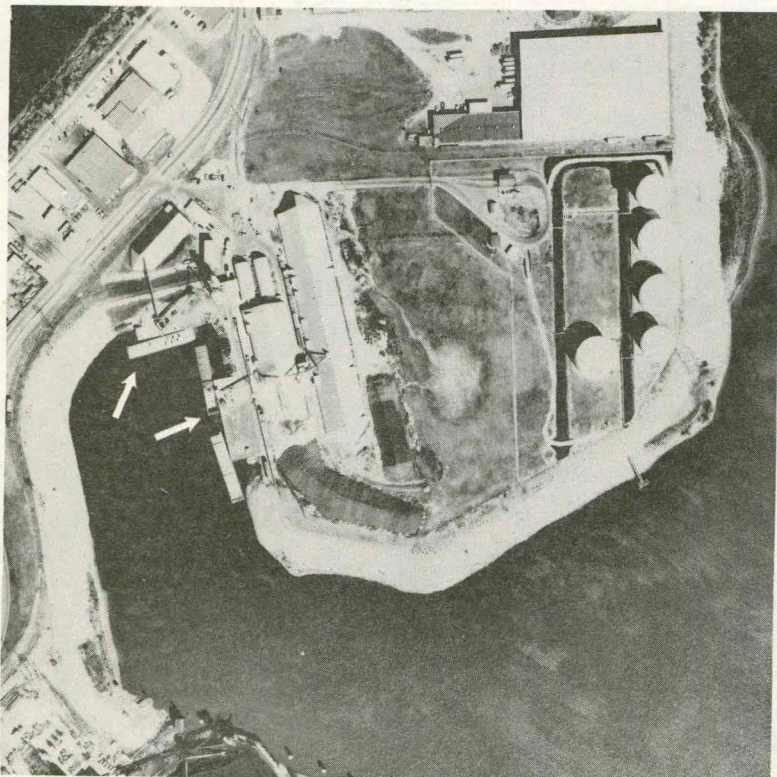


MAP REFERENCE NO.: 62
MILES ABOVE OHIO RIVER: 580.3
NAME: Dubuque Tank Terminal Co.

ADDRESS: (Office)
Jones & Terminal St.
Dubuque, IA 52001
PHONE: (319)583-6457
COMMODITIES HANDLED:
Salt & dry fertilizer.

ACCESS: Truck & Rail
East of US 52 via good,
paved streets.

NOTES: Receives general
commodities.



MAP REFERENCE NO.: 63
MILES ABOVE OHIO RIVER: 580.3
NAME: ContiCarriers &
Terminals, Inc.

ADDRESS:
1050 Kerper Blvd.
Dubuque, IA 52001
PHONE: (319)556-4532
COMMODITIES HANDLED:
Corn, soybeans, salt,
fertilizer, coal, steel, &
pig iron.

ACCESS: Truck & Rail
East of US 52 via good, paved
streets.

NOTES: Ships & receives
bulk commodities.

MISSISSIPPI RIVER TERMINALS

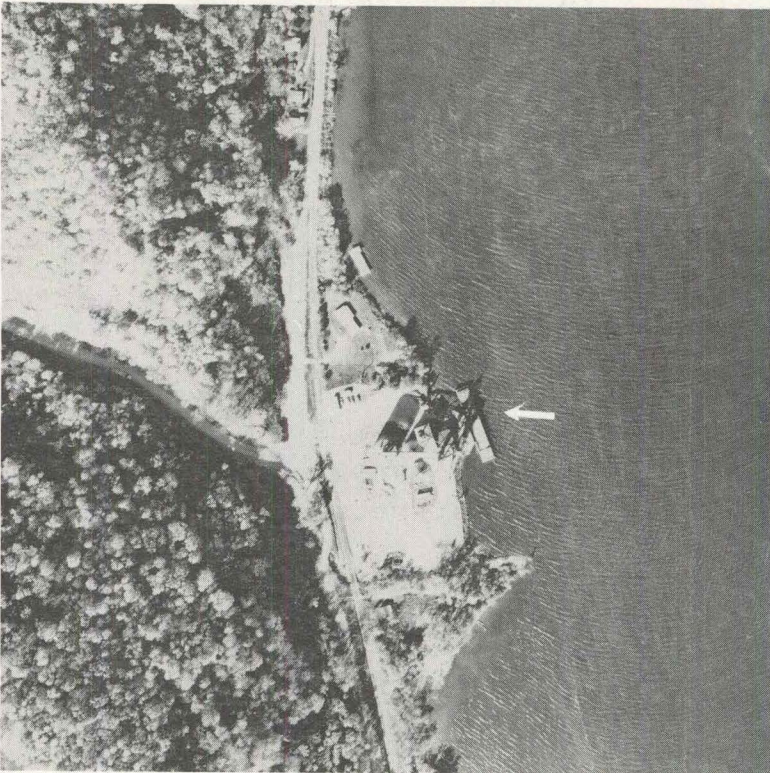
MAP REFERENCE NO.: 65
MILES ABOVE OHIO RIVER: 624.0
NAME: Pattison Grain Terminal

ADDRESS:
Clayton, IA 52049

PHONE: (319)964-2133
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck
East of paved county road
(x-56) via a steep, winding,
gravel road for 1 mile.

NOTES: Ships grain.



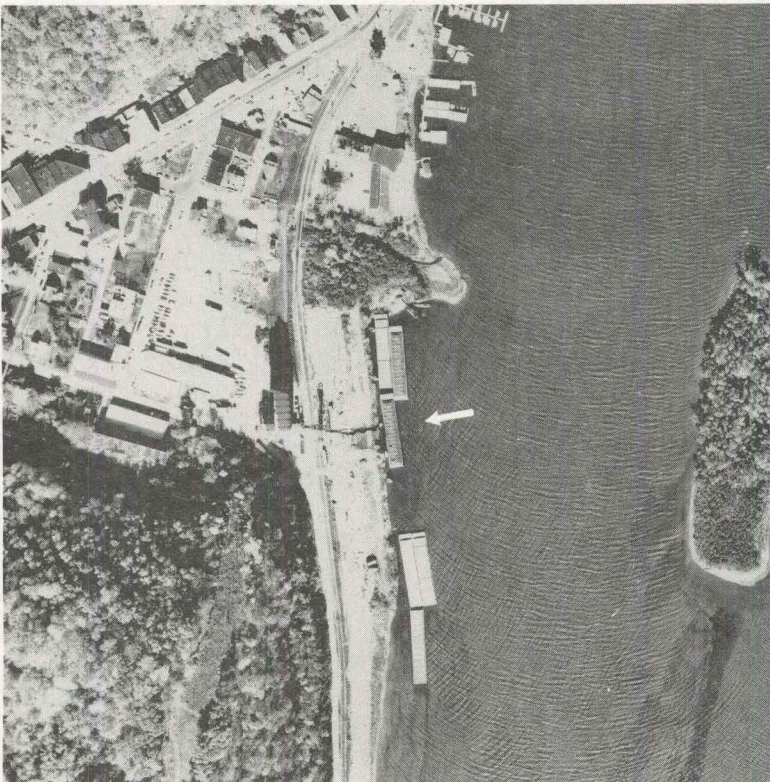
MAP REFERENCE NO.: 66
MILES ABOVE OHIO RIVER: 633.3
NAME: Farmers Grain Dealers
Association

ADDRESS:
McGregor, IA 52157

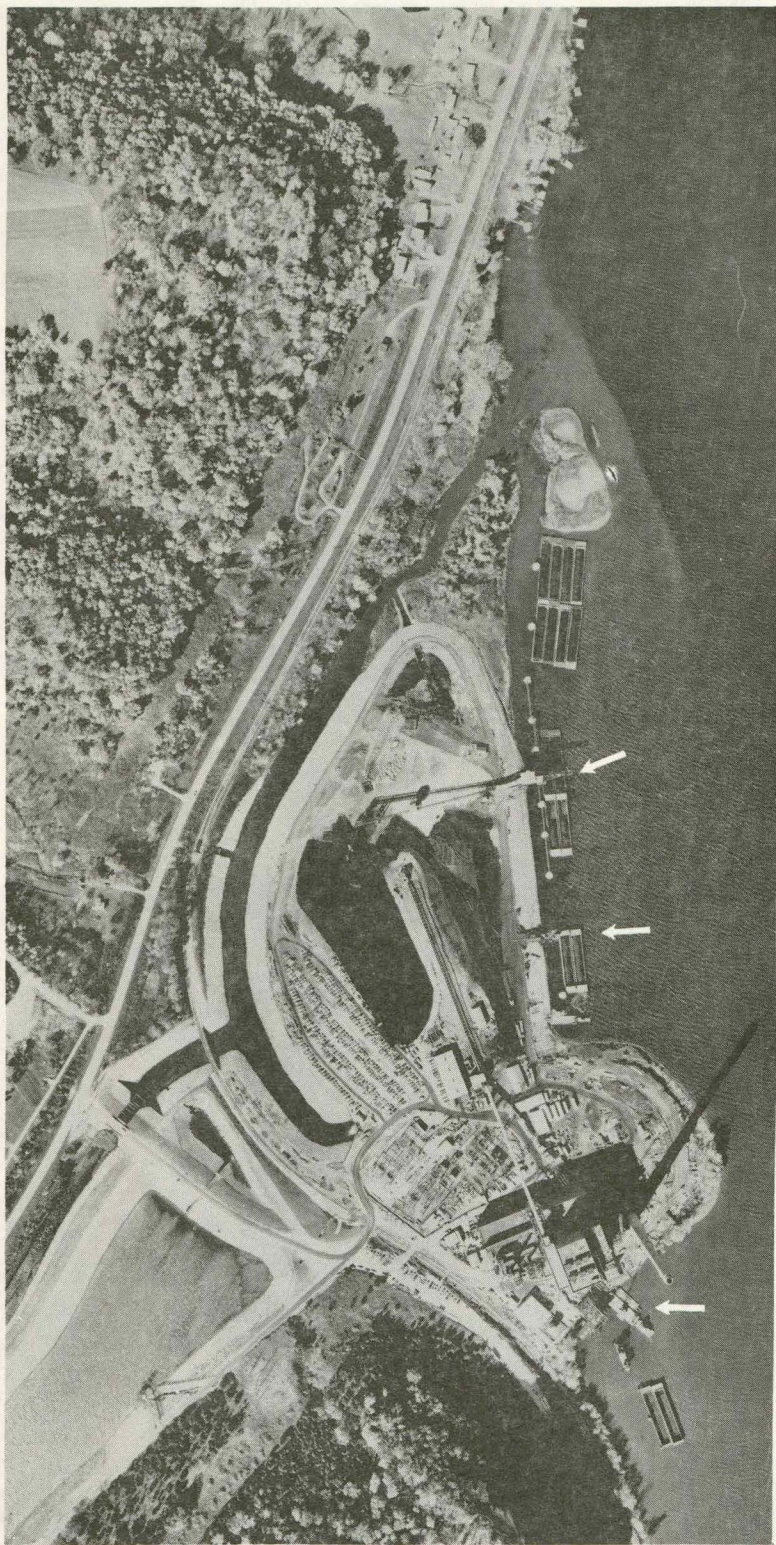
PHONE: (319)873-3436
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck & Rail
East of US 18 via 2 blocks
of good, paved streets.

NOTES: Ships grain.



MISSISSIPPI RIVER TERMINALS



MAP REFERENCE NO.: 67
MILES ABOVE OHIO RIVER: 660.0
NAME: Interstate Power Co.

ADDRESS:

Lansing Power Plant
Lansing, IA 52151
PHONE: (319)533-4717
COMMODITIES HANDLED:
Coal

ACCESS:

East of paved county road
(X-52) via a good, gravel
road for 0.7 mile.

NOTES: Receives coal.

All coal used in producing
electricity.

MISSOURI RIVER TERMINALS

MAP REFERENCE NO.: 70

MILES ABOVE MO. RIVER MOUTH: 614.1

NAME: Terminal Packaging Corp.

ADDRESS:

2850 River Road
Council Bluffs, IA 51501

PHONE: (712)323-9802

COMMODITIES HANDLED:

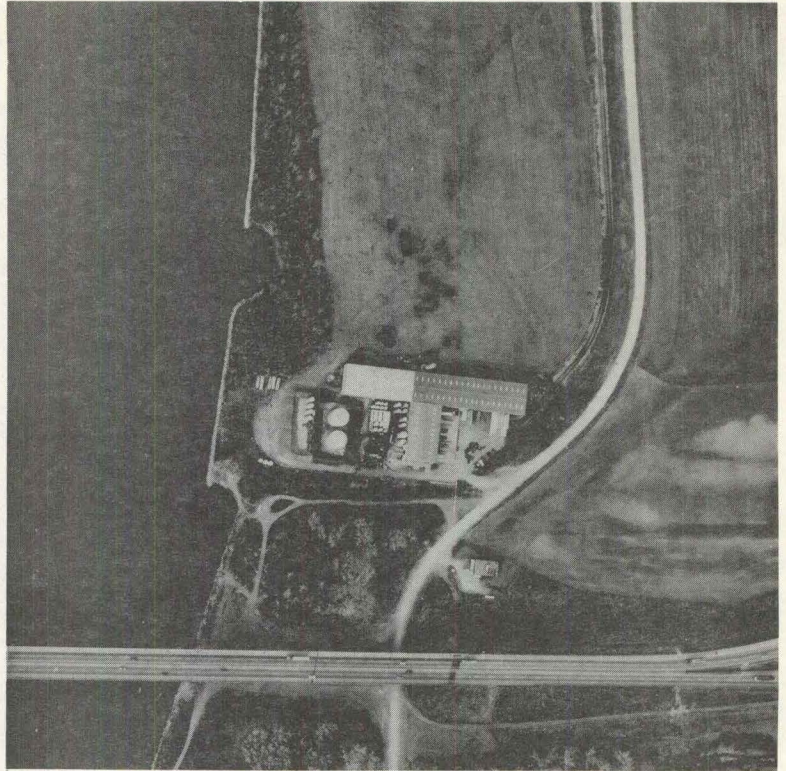
Antifreeze

ACCESS: Truck

West of I-29 via 1 mile of good
roads - paved & gravel.

NOTES: Receives antifreeze.

Rarely uses barges.



MAP REFERENCE NO.: 71

MILES ABOVE MO. RIVER MOUTH: 614.4

NAME: Cargill, Inc.

ADDRESS:

2401 S. 37th St.
Council Bluffs, IA 51501

PHONE: (712)323-9481

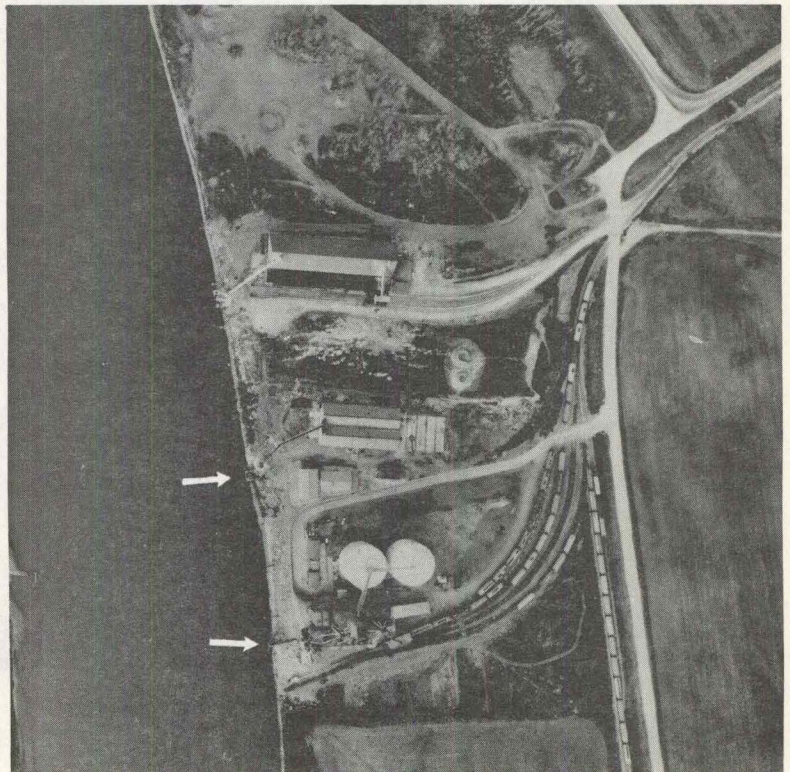
COMMODITIES HANDLED:

Corn, wheat, & fertilizer.

ACCESS: Truck & Rail

West of I-29 via ½ mile of
good roads - paved & gravel.

NOTES: Ships grain & receives
fertilizer.



MISSOURI RIVER TERMINALS

MAP REFERENCE NO.: 72
MILES ABOVE MO. RIVER MOUTH:614.45
NAME: Farmland Industries

ADDRESS:
2301 S. 37th St.
Council Bluffs, IA 51501
PHONE: (712)322-8287
COMMODITIES HANDLED:
Dry fertilizer.

ACCESS: Truck & Rail
West of I-29 via ½ mile of
good roads - paved & gravel.

NOTES: Receives bulk fertilizer.

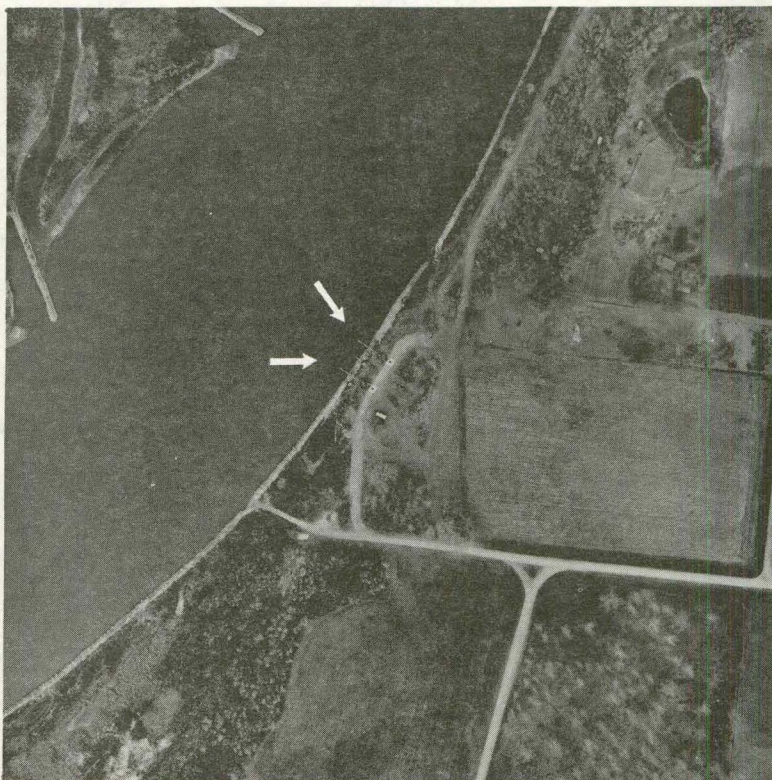


MAP REFERENCE NO.: 73
MILES ABOVE MO. RIVER MOUTH:680.6
NAME: Pilus Transfer Point

ADDRESS:
Rural Delivery
Blencoe, IA 51523
PHONE: (712)452-2749
COMMODITIES HANDLED:
Corn & soybeans.

ACCESS: Truck
West of I-29 via about 3 miles
of good county roads - paved &
gravel.

NOTES: Ships grain.

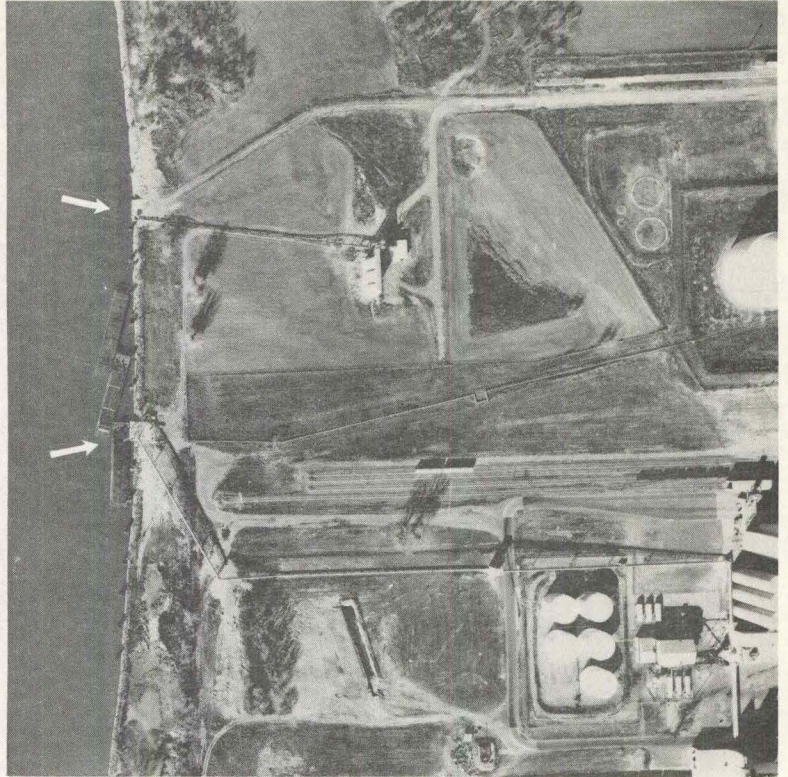


MISSOURI RIVER TERMINALS

MAP REFERENCE NO.: 74
MILES ABOVE MO. RIVER MOUTH: 716.6
NAME: Farmland Soy Processing Co.
(Farmland Industries, Inc.)
ADDRESS: Port Neal Ind. Area
P.O. Box 200
Sergeant Bluff, IA 51054
PHONE: (712)943-4282
COMMODITIES HANDLED:
Soybean meal & soybean oil.

ACCESS: Truck & Rail
West of I-29 via 3 miles of good paved roads.

NOTES: Ships soybean products produced at the terminal.

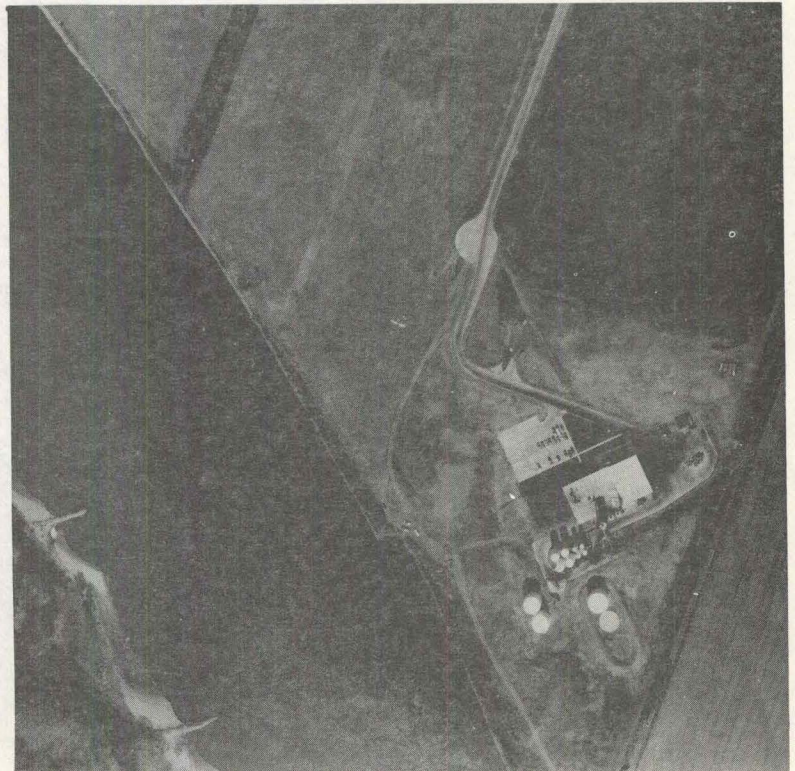


MAP REFERENCE NO.: 76A
MILES ABOVE MO. RIVER MOUTH: 727.0
NAME: Flavorland By-Products

ADDRESS:
1900 Murray
Sioux City, IA
PHONE: (712)258-7524
COMMODITIES HANDLED:
Tallow

ACCESS:
West of I-29 via 1.6 miles of good paved roads.

NOTES: Tallow shipments to start upon completion of new barge facility in 1977.



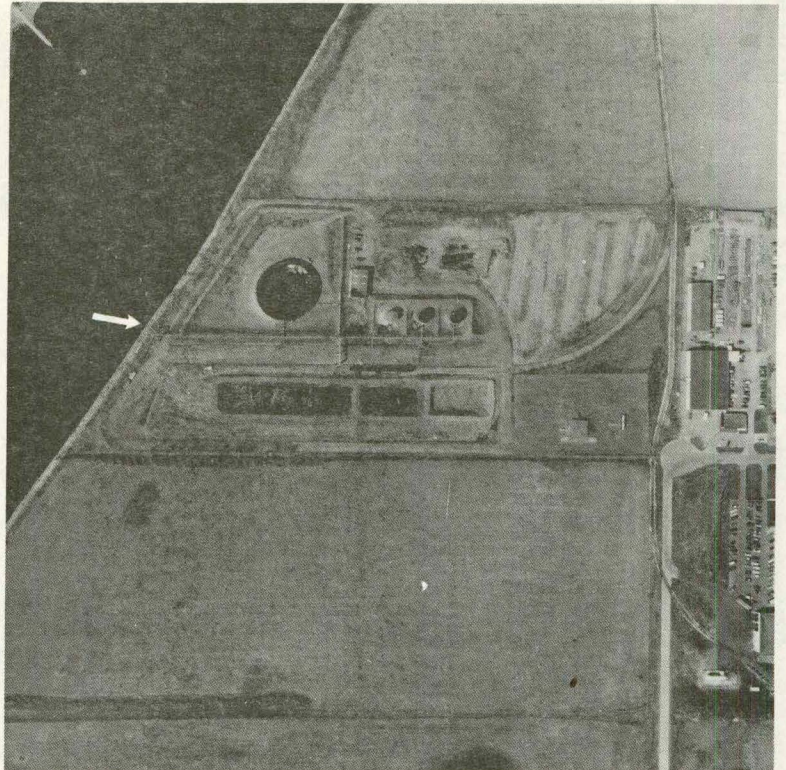
MISSOURI RIVER TERMINALS

MAP REFERENCE NO.: 77
MILES ABOVE MO. RIVER MOUTH: 727.5
NAME: Jebro, Inc.

ADDRESS: (2303 Bridgeport)
P.O. Box 2813
Sioux City, IA 51111
PHONE: (712)277-8855
COMMODITIES HANDLED:
Asphalt

ACCESS: Truck & Rail
West of I-29 via 0.8 mile of
good, paved roads.

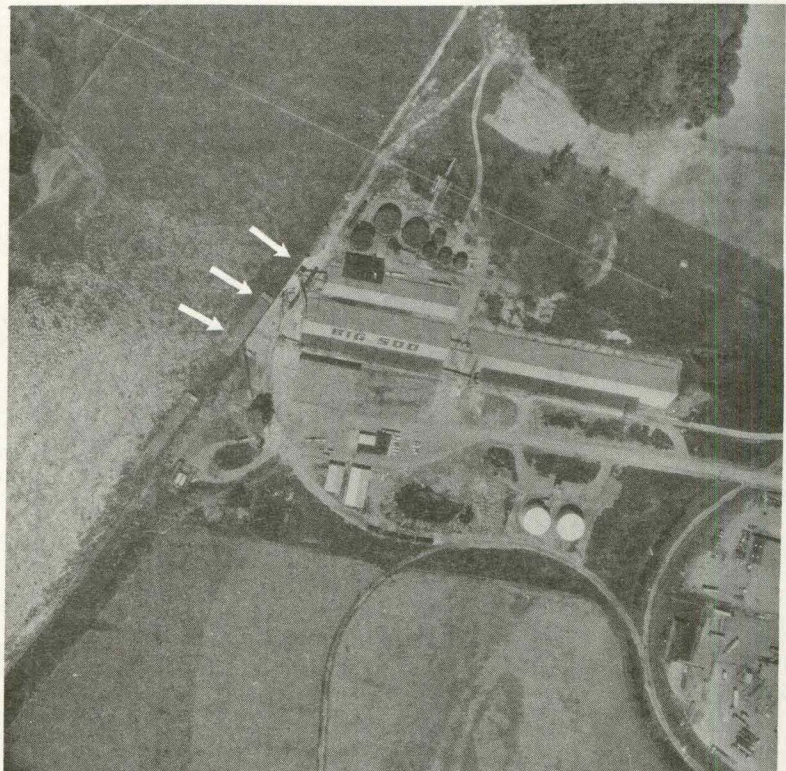
NOTES: Received asphalt before
1975, but none since then.



MAP REFERENCE NO.: 78
MILES ABOVE MO. RIVER MOUTH: 727.8
NAME: Big Soo Terminal

ADDRESS:
4101 Harbor Drive
Sioux City, IA 51111
PHONE: (712)258-0537
COMMODITIES HANDLED:
Grain, soybean meal, alfalfa pel-
lets, tallow, salt, molasses, pa-
per, steel, fertilizer & pitch.
ACCESS: Truck & Rail
West of I-29 via 0.4 mile of
good gravel road.

NOTES: Ships & receives general
commodities. Owned by: Terminal
Grain Corp., 615 Benson Bldg.,
Sioux City, IA 51101.



MISSOURI RIVER TERMINALS

MAP REFERENCE NO.: 79

MILES ABOVE MO. RIVER MOUTH: 731.2

NAME: Nutra Flo Chemical Co. &

Industrial Molasses

ADDRESS:

514 S. Floyd Blvd.

Sioux City, IA 51101

PHONE: (712)277-2011

COMMODITIES HANDLED:

Tallow & industrial molasses.

ACCESS: Truck & Rail

SW of I-29 via good paved
streets.

NOTES: ships & receives
commodities. Owned by Nutra Flo
Chemical Co. & dock usage shared
with Industrial Molasses.



INDEX OF TERMINALS BY COMMODITIES HANDLED

<u>Commodity Handled</u>	<u>Map Reference # of Terminal</u>
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Fort Madison, IA 52627
Ph. 319-372-3078
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Ph. 319-524-2122
Area served: Keokuk, Pools 19 and 20.

Lewis & Lawson Harbor Service, Inc.
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P.O. Box 629
Clinton, IA 52732
Ph. 319-242-1646
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Newt Marine Service
Dubuque Barge & Fleeting Service Company
1200 Adeline
Dubuque, IA 52001
Ph. 319-582-5633
Area served: Dubuque area of Pool 12.

P-D Harbor Service Company
P.O. Box 0
Argyle, IA 52619
Ph. 319-838-2245
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