

APPENDIX D

Enclosure 2: 2006 Phase 1

Project Rio Grande

Peru, Illinois Polystyrene Plant

Environmental Site Assessment

Huntsman International LLC

November 2006

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Huntsman International LLC

Environmental Site Assessment: *Peru,*
Illinois Polystyrene Plant

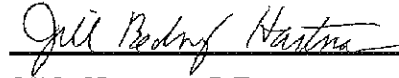
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TABLE OF CONTENTS

EXECUTIVE SUMMARY		IV
1.0	INTRODUCTION	1
	1.1	PURPOSE AND SCOPE 1
	1.2	APPROACH 1
	1.3	LIMITATIONS AND EXCEPTIONS 2
	1.4	LIMITING ON-SITE CONDITIONS 2
2.0	SITE DESCRIPTION AND HISTORY	3
	2.1	LOCATION AND NEIGHBORING PROPERTIES 3
	2.2	PHYSICAL SETTING 4
	2.3	SITE HISTORY 4
		2.3.1 <i>Site Contact Interview</i> 4
		2.3.2 <i>Summary of Previous Environmental Investigations</i> 5
		2.3.3 <i>Evaluation of Historical Information Sources</i> 6
3.0	DESCRIPTION OF OPERATIONS AND ACTIVITIES	8
	3.1	CURRENT OPERATIONS 8
	3.2	UTILITIES 8
	3.3	DISCONTINUED OPERATIONS 9
4.0	ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT	10
	4.1	EHS ORGANIZATION 10
	4.2	MANAGEMENT SYSTEMS, PROCEDURES AND CERTIFICATIONS 10
5.0	ENVIRONMENTAL, HEALTH AND SAFETY OPERATIONS AND COMPLIANCE	11
	5.1	AIR EMISSIONS 11
	5.2	WATER, WASTEWATER AND STORM WATER 12
		5.2.1 <i>Water</i> 12
		5.2.2 <i>Wastewater</i> 12
		5.2.3 <i>Storm Water</i> 13
	5.3	WASTE MANAGEMENT 13
		5.3.1 <i>Hazardous Waste</i> 14
		5.3.2 <i>Non-Hazardous Waste</i> 14
	5.4	OCCUPATIONAL, HEALTH AND SAFETY SYSTEMS 15
	5.5	PROCESS SAFETY MANAGEMENT 15
		5.5.1 <i>Fire Safety</i> 16
	5.6	HAZARDOUS SUBSTANCES 16
		5.6.1 <i>Asbestos</i> 16
		5.6.2 <i>Polychlorinated Biphenyls</i> 17

	5.6.3	<i>Ozone Depleting Substances (ODS)</i>	17
	5.6.4	<i>Radioactive Substances and Radon</i>	17
	5.6.5	<i>Environmental Noise and Other Nuisance Issues</i>	17
5.7		HAZARDOUS MATERIAL STORAGE	18
	5.7.1	<i>Underground Storage Tanks</i>	18
	5.7.2	<i>Aboveground Storage Tanks</i>	18
	5.7.3	<i>SARA/EPCRA</i>	19
6.0		SITE SOIL AND GROUNDWATER CONTAMINATION	20
	6.1	ON-SITE SOIL AND GROUNDWATER CONTAMINATION	20
	6.1.1	<i>Known Soil and Groundwater Issues and Remediation Measures</i>	20
	6.1.2	<i>Existing Soil and Groundwater Investigations</i>	20
	6.1.3	<i>Potential Historical Sources of On-Site Contamination</i>	20
	6.1.4	<i>Potential Areas of Concern or Unknown Risks</i>	21
6.2		OFF-SITE SOIL AND GROUNDWATER CONTAMINATION	21
7.0		MISCELLANEOUS	23
	7.1	GOVERNMENTAL INSPECTIONS AND REGULATORY ISSUES	23
	7.2	FUTURE REGULATORY ISSUES	23
8.0		ENVIRONMENTAL, HEALTH AND SAFETY FINANCIAL PLANNING	25

APPENDICES

A	PHOTO LOG
B	SANBORN AND HISTORIC TOPOGRAPHIC MAPS
C	EDR REPORT

List of Tables

2-1	<i>Summary of Historical Records Reviewed</i>
5-1	<i>2005 Annual Emission Report Summary</i>
5-2	<i>Inventory of Above Ground Storage Tanks</i>

List of Figures

1	<i>Site Location Map</i>
2	<i>Site Layout Map</i>

EXECUTIVE SUMMARY

Environmental Resources Management Limited (ERM) was commissioned by Huntsman International LLC (Huntsman) to undertake a Phase I environmental assessment in anticipation of divestiture of the Peru, Illinois Polystyrene Site located at 501 Brunner Street, Peru, Illinois 61354 (hereafter 'the Site').

Huntsman plans to divest the Peru, Illinois assets. These consist of polystyrene production facilities, polystyrene storage and packaging facilities, shipping facilities, a barge unloading dock, a maintenance building, a laboratory, a pilot plant and an administration building. The Site is located on a 30 acre parcel of land. The principal objectives of the assessment were to:

- Based on information available and observations made during a two-day site visit, assess material (i.e., in excess of \$100K USD per issue) compliance issues that may affect the facility's license to operate or drive material capital expenditures to comply with existing and reasonably foreseeable (i.e. coming into force 12 months from November 1, 2006) environmental and health and safety regulations and legislation;
- Characterize the environmental setting, surrounding land use, historical land use and related issues concerning the environmental context; and
- Evaluate current and past manufacturing activities and related practices at the Site to establish known or potential sources of material soil, groundwater and/or surface water impact.

The Site visit was undertaken by ERM audit specialist Ralph Feeney with the assistance of Spencer Yeung on October 31st and November 1st, 2006. The assessment comprised of interviews with Brian Marcinkus, Site Manager; Donald Sexton, Environmental Manager; Joe Bantista, Health and Safety Coordinator and other Site staff; review of available documentation; and visual observations of the Site.

The Site is located between Brunner Street on the north and the Illinois River and the I&M Canal on the south. The Site covers approximately 30 acres, of which approximately all are developed for polystyrene production storage, packaging and shipping. The Peru/LaSalle city boundary line is near the east side of the property. The nearest surface watercourse is the Illinois River which is located just south of the site. The site is located in an air shed which is in attainment of all national ambient air quality standards.

To the south of the Site are Burlington Northern railroad tracks. South of these tracks are Mertles CBA Consolidated Grain and ADM/Growmark/Tabor. To the east are Buckman's Metal Recycler and Mertles CBA River Docks. To the north of the Site is the former Western Clock manufacturing site, now converted to light industrial use. To the west of the Site is the City of Peru's wastewater treatment site and Go Dan, a closed business that used to manufacture automotive radiators.

The key findings of the Phase I assessment are summarised below.

Operational Issues and Soil and Groundwater Quality

Operational Issue	Material Issues
Environmental Management	None
Emissions to Air	None
Water & Wastewater Management	None
Waste Management	None
Materials Handling & Storage	None
Environmental Noise	None
Occupational Noise & Hearing Conservation	None
Other Environmental Issues (Asbestos, Polychlorinated Biphenyls, Ozone Depleting Substances & Radioactive Substances)	None
Fire Protection and Prevention	None
Soil and Groundwater Quality	Yes - due to contamination from Illinois Zinc

Soil and Groundwater Quality

According to Site personnel contaminated material from the former zinc smelting operations are spread across the Site in thickness ranging in depth from several inches to 15 feet. This material is high in lead, mercury, copper, cadmium and zinc.

Verbal communication between the Illinois EPA and the Site seems to indicate that groundwater and the Illinois River are not impacted by the contaminated material. Also, taking action at the Site does not appear to be a priority for Illinois EPA since the Site is almost entirely paved and public access is prevented by security at the Site. The large percentage of paved area and site security has caused the Site to score low in priority on the State of Illinois risk-based corrective action program (TACO).

Conclusion

No material environmental, health and safety issues were identified in relation to ongoing operations at the Peru, Illinois Site. However, the Site's history and the presence of contaminated materials on the Site and on adjacent properties that used to comprise Illinois Zinc pose a significant concern unknown with respect to future potential liability.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Environmental Resources Management Limited (ERM) was commissioned by Huntsman Corporation (Huntsman) to undertake a Phase I environmental assessment in anticipation of divestiture of the polystyrene site located at 501 Brunner Street, in Peru, Illinois ("the Site").

The principal objectives of the assessment were to:

- Based on information available and observations made during a two-day site visit, assess material compliance issues that may affect the facility's license to operate or drive material capital expenditures to comply with existing and reasonably foreseeable (i.e. coming into force 12 months from November 1, 2006) environmental and health and safety regulations and legislation;
- Characterize the environmental setting, surrounding land use, historical land use and related issues concerning the environmental context; and
- Evaluate current and past manufacturing activities and related practices at the Site to establish known or potential sources of material soil, groundwater and/or surface water impact.

At Huntsman's direction, ERM adopted a material threshold value of \$100K USD per issue for this Phase I environmental divestiture assessment.

1.2 APPROACH

The Site visit was undertaken by ERM audit specialist Ralph Feeney with assistance by Spencer Yeung on October 31 and November 1, 2006. The assessment comprised interviews with Brian Marcinkus, Site Manager; Donald Sexton, Environmental Manager; Joe Bantista, Health and Safety Coordinator and other Site staff; review of available documentation; and visual observations of the Site.

Documentation reviewed included:

- TRI Form R Report
- Wastewater Discharge Permit from City of Peru with Discharge Limitations
- Asbestos Investigation Report, ATC Project # 14510.0001, September 8, 1998
- Emergency Response Plan, Huntsman Peru Site, 9/13/06
- OSHA 200 logs from 2000 to 2006
- Huntsman EHS-1-008 Confined Space Entry Procedures
- Huntsman Peru Illinois EHS-1011 Blood Borne Pathogen Program
- Huntsman Peru EHS-1016 Hazard Communication Program

- Huntsman Peru EHS-1-013 LOTO Program
- Air Emission Inventory Reports for 2002 - 2005
- Huntsman Peru EHS-1-044 Spill Prevention Countermeasure and Control Plan - August Mack consultant.
- Huntsman EHS-1-073 Risk Management Plan Executive Summary
- Huntsman EHS-1-075 RMP Hazard Assessment
- Huntsman EHS-1-076 RMP Program 3 Prevention (PSM)
- Discharge Monitoring Reports 2004 through 2006
- General NPDES Permit No. ILR000057
- Title V Permit
- Hazardous Material Management Program
- Huntsman Peru Illinois Storm Water Pollution Prevention Plan EHS-1-018

1.3

LIMITATIONS AND EXCEPTIONS

This report is based upon the application of scientific principles and professional judgment to certain facts with resultant subjective interpretations. Judgments expressed herein are based upon the currently available facts within the limits of the existing data, scope of work, budget, and schedule. To the extent that more definitive conclusions are desired by the client than are warranted by the currently available facts, it is specifically ERM's intent that the conclusions and recommendations stated herein will be intended as guidance and not necessarily as a firm course of action except where explicitly stated as such. We make no warranties as to merchantability or fitness of the property for a particular purpose. In addition, the information provided to the client by this report is not construed as legal advice.

The client acknowledges that this report has been prepared by ERM for the exclusive use of the client, its representatives and advisors, and any investors, lenders, underwriters, and financiers who agree to execute a reliance letter. The client agrees further that ERM's report and/or correspondence will not be, except as set forth herein, used or reproduced in full or in parts for such promotional purposes, and will not be used or relied upon in any prospectus or offering circular.

1.4

LIMITING ON-SITE CONDITIONS

No limiting conditions were encountered during the Site visit. The weather during the Site visit was fair and approximately 45° F.

2.0 *SITE DESCRIPTION AND HISTORY*

The Site covers approximately 30 acres, all of which is used for polystyrene production, warehousing and administrative offices. The Site is fenced with security cameras and nearly completely paved.

2.1 *LOCATION AND NEIGHBORING PROPERTIES*

The Site is located 501 Brunner Street, in the City of Peru, La Salle County, Illinois. The general location of the Site and the physiographic features of the surrounding area are shown on Figure 1, developed from the United States Geological Survey (USGS) La Salle 7.5 minute quadrangle. The Site is situated in an area of industrial use along the Illinois River.

Land use surrounding the Site is summarized below:

- *North:* Across Brunner Street is the former Western Clock manufacturing site. According to Site personnel there had been some contamination at the time it was closed. Site personnel also said the mayor of Peru or La Salle had bought the property for \$1, did some clean up work and now portions are being used for light manufacturing.
- *East:* On the east side of the property are two acres that Huntsman sold off to Mertles CBA River Docks in 2002. This property was used by the site to dump dredging spoils from the Illinois River. Note, the location (near a river bend) creates the need for periodic dredging. To the southeast is Buckman's Metal Recycler.
- *South:* The Burlington Northern railroad tracks run parallel to the Site on the south side of the property. Beyond the tracks are Mertles CBA Consolidated Grain and ADM/Growmark/Tabor.
- *West:* The Peru City wastewater treatment site and a closed business known as Go Dan are located to the west of the property. Go Dan manufactured automobile radiators.

The nearest surface watercourse is the Illinois River which is located about 200 yards south of the Huntsman site property. The nearest residential properties are located approximately 2,000 feet north of the Site.

Photographs of the Site and surrounding areas are included in Appendix A.

PHYSICAL SETTING

According to the Geologic Map of Illinois (Willman et al., 1967) from the Illinois State Geological Survey, the geology of the Site is part of the Pennsylvanian system and the Des Moinesian series. Within the Des Moinesian series, the subject property is part of the Kewanee Group and contains the Spoon Formation. The Spoon Formation is characterized by less sandstone and more coal and limestone than the Abbott Formation below it and by less limestone and coal than the Carbondale Formation above it. The formation contains the first widespread limestones and coals, but they are thinner than those in the younger Pennsylvanian of Illinois (Willman et al., 1975).

The subject site is situated at an average elevation of approximately 460 feet above mean sea level. The nearest surface water bodies to the Site are a pair of unnamed reservoirs, located one-quarter mile southeast of the Site and to the north of Huse Lake. The nearest channels are the Illinois River and the Illinois and Michigan (I&M) Canal which flow just south of the Site.

Based on topography, it appears that without the controls in place, overland runoff from the subject property would ultimately drain to the south into the I&M Canal, a tributary of the Illinois River. Also based on topography, it appears that shallow ground water may flow in the same direction (south). However, ground water flow directions can be highly variable, and no definite statement can be made regarding ground water flow direction in the absence of accurate water level measurements from ground water wells.

According to the database report provided by Environmental Data Resources (EDR), the Site is located in the 100-year flood zone of the Illinois River. Slag, waste and rubble from the old zinc smelting operations was used to fill and build up the land surface at the site. No obvious indications of onsite wetlands were observed by ERM during the Site visit.

According to the database report from EDR, the soil for the area is a silty clay loam. Depth to bedrock is typically greater than 60 inches. Due to prior use as a zinc smelter, slag spread across the Site varying in depth from several inches to 15 feet.

The natural soil is very corrosive to unprotected steel. Site personnel said that water supply pipes from the city had corroded and been replaced by an above ground pipe rack, due to soil contact corrosion.

SITE HISTORY

Site Contact Interview

ERM interviewed Mr. Brian Marcinkus, Site Manager to obtain historical information concerning the Site. Mr. Marcinkus has been employed with Huntsman and associated with the Site for approximately 16 years.

From approximately 1850 to 1940, the current Site and 45 additional acres between the current Huntsman property and the Illinois River were operated by the Illinois Zinc Company. This company performed a zinc smelting operation on the property. The old buildings used in the zinc smelting operations have been razed. Slag, waste and rubble were used as fill to build up the land surface to minimize flooding.

In approximately 1960, Foster Grant purchased the the property including the site. Foster Grant constructed the barge dock, above ground storage tanks and Building 1, with 4 polystyrene reactors. Buildings 2 and 3 were built later (timeframe uncertain) with additional polystyrene reactors. Operations in Building 1 were shut down in the 1970's. In 1975 Building 4 was constructed with three polystyrene reactors (reactors 14, 15 and 16).

The Site was subsequently purchased by the American Hoechst Corporation. Huntsman purchased the site from American Hoechst in 1986. In 1992, reactor 17 was added to Building 4 and in 1998, reactor 18 was added. Operations in Building 3 were shut down in 1997. Operations in Building 2 were shut down in 2004. In 1992 the flare was installed to control off-gases and emissions from the reactors, the wash tanks and excess pentane. Two storm water barriers were built in the early 1990s.

In 2004, Huntsman sold 2 acres on the east side of the property to Mertles CBA River Docks. Previously, Huntsman had placed dredging spoils from the river onto this property.

2.3.2

Summary of Previous Environmental Investigations

ERM was provided with the Pre-CERCLIS Site Inspection Report conducted by the Illinois EPA during 1999 and 2000.

The February 2000, Illinois EPA report stated that x-ray fluorescence samples showed levels of lead and mercury in soils on the former Illinois Zinc Company Site that exceeded the Tiered Approach to Corrective Action Objectives (TACO) for inhalation and ingestion on industrial Sites. Zinc and copper were also found in high levels in some samples. Sediment samples collected along the Illinois River and the I&M Canal had elevated levels of zinc that exceeded the Ontario Sediment screening benchmarks (the EPA compared the site to Ontario Sediment screening levels). One sample had elevated levels of lead.

The Illinois EPA Pre-CERCLIS (Comprehensive Environmental Response, Compensation and Liability Information System) Evaluation recommended that the Site be placed on CERCLIS (i.e., superfund database) for a future CERCLA investigation. This has not taken place as of November 2006. Brian Marcinkus stated that he had been told by representatives of Illinois EPA that even though the lead and mercury levels at the Site were high, the fact that nearly the entire Site is paved and access to the Site is restricted, proceeding to the next step of the CERCLA process would be a low priority for the Illinois EPA.

2.3.3

Evaluation of Historical Information Sources

To determine past uses of the Site and surrounding properties, ERM reviewed historical sources of information as shown on Table 2-1. Copies of the Sanborn maps and historical topographic maps are presented in Appendix B. Historical aerial photographs depicting the subject property are not presented because coverage for the subject property was not available from EDR at the time of ERM's assessment.

Table 2-1 Summary of Historical Records Reviewed

Source of Information	Years Reviewed	
	Subject Property	Adjacent Properties
Interview(s)	Brian Marcinkus	Brian Marcinkus
Sanborn Fire Insurance Company Map(s)	1888, 1892, 1897, 1902, 1909, 1916, 1926, 1949, and 1967	1888, 1892, 1897, 1902, 1909, 1916, 1926, 1949, and 1967
USGS Topographic Map(s)	1913, 1966, 1979 and 1993	1913, 1966, 1979 and 1993
City Directories (organized by address)	1958, 1966, 1972, 1979, 1985, 1992, 1999 and 2005	1958, 1966, 1972, 1979, 1985, 1992, 1999 and 2005
Aerial Photographs	Not available	Not available

Subject Site

The subject Site was formerly part of a larger property that was occupied by Illinois Zinc Company and was used for zinc smelting operations from 1850 until 1940 when the operations ceased and the property was sold. Over the next two decades, the property changed ownership many times until the early 1960's when the parcel of land that would become the subject property was purchased by the Foster-Grant Company. Huntsman purchased the site and commenced operations in 1986.

The 1993 USGS topographical map identifies sewage disposal locations along the Illinois & Michigan Canal on the southwest and southeast corners of the subject property. According to the site contact waste disposal was conducted on the Illinois Zinc property but not the portion where the Huntsman site is located.

Adjacent Properties and Surrounding Area

The adjacent properties follow a development history generally consistent with that of the subject Site because these properties were once part of a larger 75-acre property where Illinois Zinc Company operated. After the zinc smelting operations ceased, the entire property was divided and sold in pieces. Some of these pieces would form the adjacent properties in the immediate vicinity of the subject Site.

Although the surrounding area is largely industrial, there are some nearby residential areas to the northwest that were developed between 1913 and 1966, based on the USGS topographical maps. During this period, a vast amount of commercial and residential development took place to the north of the CSX railroad. The city directory and Sanborn maps indicate a progression of development that is consistent with the information provided by the Site contact and the USGS topographical maps.

3.0

DESCRIPTION OF OPERATIONS AND ACTIVITIES

3.1

CURRENT OPERATIONS

The site manufactures several grades of polystyrene and expandable polystyrene. The existing facilities include the production units, central utilities, a tank farm, wastewater pre-treatment, barge unloading facilities, a technology development laboratory and pilot plant site, warehousing facilities, and administration offices. The Site has a Technical Development Lab (pilot plant) to evaluate process changes before they are used in full scale production. The Site also has a Quality Control lab to test the quality of product.

The products produced include General Purpose Crystal Polystyrene pellets ("GP") and Expandable Polystyrene ("EPS"). A styrene based byproduct is produced from the process and sold to chemical manufacturers as a raw material.

The principal raw material is styrene monomer. This material is brought to the Site by barge at the unloading dock owned by Huntsman or truck. Barge is the preferred mode of transport. The Site has five 15,000 gallon batch reactors for making polystyrene. Styrene monomer is mixed with water, and additives and catalyst are added. To begin the polymerization process, the temperature is raised to about 190 degrees Fahrenheit. At this point, the mixture is agitated and the temperature is controlled. Additives determine the bead size. For expandable polystyrene, pentane is added to the reactor when the beads begin to cure. The reactor is pressurized between 85 psi and 120 psi. Pressure forces the pentane into the beads. The beads are then dried and then pneumatically conveyed to the packaging and storage building. Different dry lubricants are added to the beads. They are packed in Super Sacks®.

The Site employs approximately 81 full-time employees in the site, 7 full-time contract employees and 5 pilot plant employees. The site operates 24/7 with a four-shift operation with three shifts on-duty while one shift is off-duty. There is a seven-day swing rotation.

3.2

UTILITIES

Drinking water and sanitary sewer services are provided to the Site by the City of Peru. Process water goes through several purification steps (softener, sand, carbon, reverse osmosis and deionization) before it can be used. Electrical power is provided by Ameron. Wastewater is pretreated onsite and discharged to the Peru Wastewater Treatment Plant located adjacent to the Site under a permit. Process heating is accomplished using steam provided by three natural gas fired steam boilers (with fuel oil used as back-up) or by heat transfer oil. Chilled water is provided by cooling towers or chillers.

DISCONTINUED OPERATIONS

According to USEPA documents, the zinc smelter ceased operations in the 1940's. All associated equipment and buildings have since been removed.

Polystyrene manufacturing in buildings 1, 2 and 3 were shut down in the 1970's, 2004 and 1997 respectively. The buildings have been closed and utilities have been disconnected. The polystyrene reactors are still present. During the 1980's there were 12 extruders on the first floor of the administration building. These have been removed, and the space is used for storage.

There was a Continuous High Impact Polystyrene (CHIPS) production process with a tank farm that was sold to NOVA in 1999; however, Huntsman maintained ownership of the property. This operation was located at the eastern edge of the warehouse. NOVA closed and demolished the CHIPS building in - 2001. The space is currently vacant.

4.0 *ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT*

4.1 *EHS ORGANIZATION*

The Site has two full-time environmental, health and safety professionals and a part-time administrative person to help with recordkeeping and other needs.

4.2 *MANAGEMENT SYSTEMS, PROCEDURES AND CERTIFICATIONS*

The Site was recently certified as an OSHA Voluntary Protection Program (VPP) Facility, a program that sets performance-based criteria for health and safety management. The site is also ISO 9002 certified. Huntsman performs internal audits of each site on a routine basis. The Site conducts Work Permit audits on a regular basis. EHS-related documents are managed centrally, either on electronic databases or in paper form. Training records, Material Safety Data Sheets and Process Safety Management information was viewed in the Site's electronic system. ERM considers that the Site has implemented an established set of processes and procedures in place to appropriately manage the EHS issues at the Site.

5.0

ENVIRONMENTAL, HEALTH AND SAFETY OPERATIONS AND COMPLIANCE

5.1

AIR EMISSIONS

The site holds a Title V permit 099085AAC. The current permit expired on October 22, 2006; However, a timely renewal application was submitted by Huntsman. At the time of the site visit, October 31, 2006, the site had received correspondence from the Illinois EPA that the permit renewal was in process.

From reviewing the existing permit, there are 33 significant emission sources at the Site. Nine are in Building 4 associated with the polymerization process. Seven are in the Technology Development lab, three are in the QC Lab, four are in the tank farm and two are associated with the gas fired boilers. The existing permit also identifies eight emission sources in Building 2 which have been shut down. The vent stream from the polymerization process is controlled by the flare. The site has a Leak Detection and Repair (LDAR) program. There are no emission controls for emission from the Technology Development lab, the QC Lab or the boilers. The styrene tanks in the tank farm have a submerged loading pipe.

The 2005 Annual Emission Report submitted to Illinois EPA showed the following actual emissions versus allowable emissions.

Table 5-1 2005 Annual Emission Report Summary

Pollutant	Allowable Emissions (Tons/Year) From Permit	2005 Site Reported Emissions (Tons/Year)
Carbon Monoxide	38.8	11.5
Lead	0.0	0.0
NH ₃	1.4	0.4
NO _x	43.1	10.8
PART	34.1	23.5
PM10	14.8	5.6
PM2.5	2.2	0.00
SO ₂	32.9	0.1
Benzene*	None specified	0.002
Ethyl benzene*	None specified	0.3
Styrene	17.8	11.1
Toluene	None specified	0.0
Xylene	None specified	0.2
Volatile Organic Compounds	597.8	162.4

*Emissions of benzene, ethyl benzene and toluene are related to cleaning out site reactors in 2005.

The Site is required to have a Risk Management Plan. The Site has registered with the EPA and maintains a Risk Management Plan (RMP) on-Site. The Site has documentation that the RMP was received by USEPA on July 30, 2004, and it was found to be complete. The expiration date for the RMP is June 16, 2009.

Information on the site's Title V deviations was not available prior to the issuance of this report.

No material issues were identified with respect to air emissions.

5.2 WATER, WASTEWATER AND STORM WATER

5.2.1 Water

Drinking water and process water are provided by the City of Peru. While the drinking water receives no additional treatment, the process water is treated through several purification steps (softener, sand, carbon, reverse osmosis and deionization). According to site personnel, there are no water wells on the site nor have they ever been located on the site.

5.2.2 Wastewater

The Site has a permit to discharge wastewater to the City of Peru Wastewater Treatment Plant. The current permit was issued on December 19th 2003, went into effect on January 1, 2004, and is effective until December 31, 2008.

There are two process wastewater streams at the Site. Process water from the polymerization process is hard piped and discharged at outfall 001 and is subject to the Organic Chemicals Plastics and Synthetic Fibers (OCPSF) standard. Polymerization process wastewater is collected in a concrete wastewater collection basin on the south side of Building 4. The wastewater is pumped to an aerobic wastewater treatment system and then discharged to the City of Peru Wastewater Treatment Plant. The discharge to the Wastewater Treatment Plant must meet the OCPSF standards. The OCPF standards are concentration limits for 35 organic chemicals that are by-products of plastic manufacturing. The volume from outfall 001 is approximately 50,000 gallons per day. Solids removed at the end of the treatment plant are filter-pressed to produce a sludge cake which is sent to a landfill.

Extruder cooling water blowdown which is discharged via outfall number 002 goes via hard piping directly to the Peru Wastewater Treatment Plant without any treatment. The volume from outfall 002 is approximately 35-50 gallons per day.

Discharge analysis is conducted by TEST, the same contractor that manages the city's treatment plant. A review of discharge monitoring reports for the last two years indicated compliance with wastewater discharge parameters.

No material issues were identified with respect to wastewater management.

5.2.3

Storm Water

The Site operates under the Illinois General Stormwater Discharge Permit ILR000057. The permit was obtained from Illinois EPA on June 15, 1998. The Site has a Storm Water and Pollution Prevention Plan dated July 21, 2006.

The Site has five drainage areas (A, B, C, D, and E) for precipitation that falls on the Site. Storm water leaves the Site at only two discharge points, at drainage areas A and B. From other areas, storm water does not leave the Site or only leaves as sheet flow.

Drainage Area A is in the western part of the Site and contains the water treatment and wastewater pretreatment facilities. Approximately 80% of the surface in this area is covered by impervious material. Storm water collected in this area is collected in the west storm drain system and discharged through stop gate #3 to the City of Peru storm sewer west of the site.

Drainage Area B is the largest drainage area. It includes the central and northern portions of the Site. Building 4 and the Warehouse are in this area. About 70% of Area B is impervious. Storm water from this area is routed to sediment traps with an overflow and underflow weir system and shut off valve. Area B has the only significant storm water flow from off-site.

Drainage Area C is the containment area for styrene monomer and pentane tanks. It is a diked area designed to capture spills.

Drainage Area D is a narrow area along the southern property boundary. A berm and some asphalt curbing have been constructed to prevent runoff from crossing the property line. No discharge points exist along the south property line. Stormwater that falls on Area D flows through a culvert with an overflow and underflow device to catch pellets and then flows through a pipe to the Illinois and Michigan Canal.

No material issues involving stormwater water were identified at the Site.

5.3

WASTE MANAGEMENT

Site personnel reported that no waste has been buried or dumped onsite during Huntsman's ownership with the exception of the dredging spoils that were placed on the property sold to Mertles CBA River Docks on the eastern edge of Huntsman's current property.

As discussed in the site history section, slag from the former zinc smelter operations were disposed of onsite as fill material. This site is a candidate for listing in the state superfund list for past (i.e., pre-Huntsman) disposal practices. Dredging spoils have been placed on the eastern side of the site. According to site personnel, the spoils tested negative for hazardous metals (TCLP) and priority pollutants.

5.3.1

Hazardous Waste

The Site is a large quantity generator of hazardous waste (USEPA ID No. ILD087154555).

The 2005 waste generation summary showed that the Site generated 4,790 gallons of hazardous waste. The majority (62%) of the hazardous waste was contaminated soil that failed the TCLP for lead. The Site staff indicated that almost all of the soil (i.e., fill impacted by Illinois Zinc Company's smelting operations) onsite would be a hazardous waste if generated by being disturbed. The most recent removal occurred when old piping was replaced with overhead pipe racks. The rest of the hazardous waste on site comes from the laboratories, spent solvents from material cleaning and discarded chemicals that are ignitable or reactive.

Hazardous waste is containerized in drums and stored less than 90 days on a waste pad located southeast area of the Site. The waste pad is under a roof and provided with secondary containment. It is inspected weekly. In addition, designated hazardous waste satellite accumulation areas are located in the Technical development Laboratory and in the CA/QC lab.

The Site appears to be operating in compliance with the administrative requirements for large quantity generators of hazardous waste. These requirements include completion of manifests and land disposal restriction forms, recordkeeping, employee training, labeling, emergency planning, inspections and biennial reporting.

5.3.2

Non-Hazardous Waste

Non-hazardous solid waste is generated at the Site. Nonhazardous special waste includes used oil, and glycol based antifreeze. Unregulated nonhazardous waste consists primarily of uncontaminated packaging material. Used oil and other non-hazardous wastes are collected in 55 gallon drums and stored on the waste storage pad with the hazardous waste. The Site has a program for managing Universal Waste. Universal Waste is segregated and stored in the Maintenance Building. The Site contracts Safety Kleen Systems to maintain parts washing stations. Used oil is picked up by both Safety Kleen Systems and Heritage Transport. The Site's non-hazardous waste is sent to:

- Safety Kleen Systems in Dalton, Illinois
- Heritage Transport in Indianapolis, Indiana
- Bodine Environmental in Decatur, Illinois

There are no material issues involving waste management at the Site.

OCCUPATIONAL, HEALTH AND SAFETY SYSTEMS

The Site achieved OSHA VPP Star status in June 2006. According to site staff, there was a hot work permit violation that was reported to OSHA by an employee. The Site was fined \$1,500. The Site has a community Advisory Panel that meets 8 times a year. The site maintains an employee Hazard Communication Program (HAZCOM) and a written HAZCOM plan. Key components of the safety programs include:

- A written lockout/ tag out program;
- An emergency response plan;
- Confined space entry procedures;
- Respirator training and maintenance program;
- Material Safety Data Sheets (MSDSs) are maintained in the EHS Manager's office and are available online throughout the Site's computer network; and
- HAZCOM training is documented as required by 29 CFR 1910.1200(h) and the copies of the HAZCOM plan are located in the EHS Manager's office, the General Manager's office and the QA/QC Lab on the manufacturing floor.

ERM conducted a cursory review of the electronic MSDS system, including requesting MSDSs for random chemicals, reviewed the safety training program and training records for employees, and reviewed the Site's corrective action tracking system to see how findings from audits and inspections are tracked and closed out. During the Site visit, ERM did not observe any unlabeled containers.

OSHA 200 logs were reviewed for 2000 through 2005. The site has had no injuries in the last two years.

PROCESS SAFETY MANAGEMENT

The Site is subject to OSHA Process Safety Management standard.

The Site has developed a Process Safety Management Plan. The Plan addresses:

- Employee participation;
- Process safety information;
- Process hazard analysis;
- Operating procedures;
- Training;
- Contractors;
- Pre-start-up safety reviews;
- Mechanical integrity;

- Safe work practices;
- Management of change;
- Accident investigation; and
- Emergency planning and response.

The Mechanical Integrity Program's frequency for the inspections and tests of process equipment depends on the applicable manufacture's recommendations and good engineering practices, and more frequently if determined to be necessary by operating experience.

The effectiveness of the process safety program is audited internally on a three-year cycle in accordance with Huntsman corporate requirements.

5.5.1 *Fire Safety*

The fire protection equipment at the Site includes a foam cell system inside of the styrene monomer tank; two fire water tanks (400,000 gallons, and 2,300,000 gallons); two deluge systems for the tank farm (12,000 gpm and 23,000 gpm); and sprinklers in the tanks. The diesel engines that pump fire water are checked annually, and the foam system is also checked annually. The Site relies on the City of Peru for firefighting.

There are no material issues regarding process safety at the Site.

5.6 *HAZARDOUS SUBSTANCES*

5.6.1 *Asbestos*

Under OSHA regulations building and/or site owners are required to identify the presence, location, and quantity of asbestos containing material (ACM) in structures built prior to 1981 if construction, alteration, repair, maintenance, renovation, or custodial activities are performed. Building and/or site owners are required to communicate the presence, location, and quantity of possible ACMs to site employees or subcontractors and/or building tenants.

ERM obtained a copy of the asbestos surveys that were conducted in 1995 and again in 1998. After the second survey, the Site began a program to remove asbestos. The Site has records of the removal actions that have been conducted; however, they are very difficult to match up with the locations identified in the surveys. According to Site staff, the only asbestos left at the Site is on some of the roofs, in Transite panels on Building 4 and in some pipefitting insulation that has been painted over to seal in the asbestos. The roof was not observed. The Transite panels that remain on Building 4 appeared to be in good condition.

There are no material compliance issues regarding asbestos at the Site.

5.6.2 *Polychlorinated Biphenyls*

The local utility, Ameron, has a transformer on the site property just east of the Locker Rooms. Site staff members believe that the Ameron transformers have PCBs in them. A survey for PCBs in transformers owned by Huntsman was conducted at the Site; however, at the time of the visit the report could not be located.

There are no apparent material issues regarding PCB's at the Site.

5.6.3 *Ozone Depleting Substances (ODS)*

The Site has two pieces of equipment that contain ozone depleting substances that have charges of refrigerant greater than 50 pounds. The northeast chiller cools air for the process in Building 4. There is also a chiller in the tank farm that keeps the styrene monomer under 71° F. Maintenance involving ozone depleting substances is performed by certified contractors. The contractors are to provide the Site with information about the date, type of service, and amount of refrigerant added.

5.6.4 *Radioactive Substances and Radon*

One radioactive source was present at the Site at the time that the CHIPS building was operating. The operation had a cesium-137 source that was used in a level indicator. The CHIPS operation was abandoned and the building demolished in 2002. The Site still has a general license for radioactive materials.

A radon gas survey was not conducted during this assessment. The Site has not conducted any radon sampling. However, information supplied by Environmental Data Resources that was obtained from the U.S. Environmental Protection Agency (USEPA) indicates that the Site is located in Zone 1, where the predicted average indoor radon level is typically greater than 4 pCi/L (picoCuries per liter). Radon mitigation measures are recommended by the USEPA when concentrations of radon exceed 4 pCi/L. Site-specific sampling has not been performed to evaluate the concentrations of radon within the building at the Site. The Site has no basement areas or sumps.

The Site has no material radon or radioactivity issues.

5.6.5 *Environmental Noise and Other Nuisance Issues*

The site performs quarterly fence line noise surveys. Internal noise surveys have determined that employee hearing protection is required in certain areas. Hearing protection is provided to employees. The Site received complaints about the noise associated with their activities in the past regarding packing operations in Building 4. However, with changes in the operation in building 4, there have not been any noise complaints for several years. Noise is a standard consideration in the site's MOC process.

The Site personnel did not report any other complaints from the local community such as odors or truck traffic.

There are no material issues related to environmental noise or nuisance issues at the Site.

5.7 HAZARDOUS MATERIAL STORAGE

Chemicals used at the site for polystyrene manufacturing include styrene monomer, pentane, and various additives. These chemicals are transported to the site via barge and truck. Styrene monomer and pentane are stored in a tank farm with secondary containment and a water deluge system.

Ethyl benzene is used by the Technical development Laboratory as a vessel cleaning solvent. The ethyl benzene is received in 55-gallon drums via box trucks and stored outside in a roofed structure with concrete containment.

The site has prepared a Spill Prevention Control and Countermeasures (SPCC) Plan. The SPCC Plan was prepared by a consultant (August Mack) and appears to accurately reflect current operations and personnel.

5.7.1 *Underground Storage Tanks*

According to site personnel, there are no underground storage tanks (USTs) present at the Site. One UST was removed from the Site in the late 1980s. There is no documentation at the Site regarding this tank. According to site personnel, the UST was located to the east of the Maintenance Building. The EDR report contains a reference to a leaking underground storage tank incident at the Site in 1989. The EDR report does not indicate when the tank was removed; however, it appears the removal was conducted in coordination with the UST regulatory program.

5.7.2 *Aboveground Storage Tanks*

The Site has four large aboveground storage tanks and several small fuel oil tanks. A summary of the storage tanks and capacities is included in Table 5-2 below.

Table 5-2 *Inventory of Above Ground Storage Tanks*

Name - Location	Contents	Capacity	Secondary Containment	Use
Styrene Tank	Styrene monomer	2,300,000 USG	Yes	Storage
Styrene Tank	Styrene monomer	875,000 USG	Yes	Storage
Pentane Tank	Pentane	30,000 USG	Yes	Storage
Fuel Oil Tanks	Fuel Oil for Boilers	15,000 USG	Yes	Storage
Fuel Oil Tanks	Fuel for Fire Pumps			Storage

5.7.3

SARA/EPCRA

Section 311/312 of SARA Title III require the reporting of hazardous materials "stored" in amounts greater than 10,000 pounds or the Threshold Planning Quantity (TPQ) for an extremely hazardous substance, whichever is less. Section 313 of SARA Title III requires the reporting of the "releases" of toxic materials that are "manufactured or processed in amounts greater than 25,000 pounds" or "otherwise used in amounts greater than 10,000 pounds".

The Site is subject to Form R reporting requirements due to its SIC Code of 2821 and the usage of benzoyl peroxide and styrene. The Site submitted a Form R for these materials on June 6, 2006. The Form R report appears to adequately represent Site operations.

6.0 *SITE SOIL AND GROUNDWATER CONTAMINATION*

ERM has reviewed information relating to the geology and hydrogeology underlying the Site, accessed historical data, and observed current processes and associated materials handling and storage arrangements. ERM contracted with Environmental Data Resources, Inc. (EDR) to conduct an electronic search of environmental database listings of properties within the vicinity of the subject Site. The reviewed databases and their respective search radii meet or exceed those specified in the ASTM Standard E-1527-00. The EDR report, which is included in Appendix C, contains a detailed description of the databases and the results of the databases searched.

6.1 *ON-SITE SOIL AND GROUNDWATER CONTAMINATION*

6.1.1 *Known Soil and Groundwater Issues and Remediation Measures*

As a result of the zinc smelting operations, there is a significant amount of contaminated material on the Site. The slag present on the Site is high in lead, mercury, cadmium, copper and zinc. According to site personnel, the slag can be hazardous for lead content.

The Illinois EPA has investigated the Site for inclusion on the CERCLIS list. The Illinois EPA has found contamination on the Site; however, in communication with Site personnel, they have said that there does not appear to be groundwater contamination nor does contamination appear to be leaching into the Illinois River.

According to Site personnel, the Illinois EPA has said that the Huntsman property is a low priority for action by the state since the Site is almost completely paved, is fenced and has security to prevent people from coming into contact with the waste material. According to the EDR Report (Appendix C), the site has been assigned a priority level of "high."

6.1.2 *Existing Soil and Groundwater Investigations*

The Site maintains maps showing limited samples that have been taken over the years that Huntsman has managed the property and kept track of samples that are above Illinois EPA Tier I Construction Worker Scenarios, Regulatory Limits and RCRA Hazardous Waste Thresholds. These data show that virtually all of the soil sampled has been above the Illinois EPA Tier I Construction Worker Scenario. Samples showing concentrations that are above RCRA TCLP thresholds have been found in the central and southwest portions of the Site.

6.1.3 *Potential Historical Sources of On-Site Contamination*

The Site was a zinc smelter for approximately 80 years. There is documented contamination of the Site with lead, cadmium, zinc, copper and mercury. There is no evidence of contamination related to the polystyrene operations that have been performed at the Site since the 1960's. In March 2006 there was an arc flash and explosion at the transformer located west of the Maintenance Building.

Approximately 500 gallons of transformer oil was released. The transformer oil did not contain PCBs, and the oil was cleaned up.

6.1.4 *Potential Areas of Concern or Unknown Risks*

There was no groundwater data to review as part of this investigation. The information that the groundwater at the Site does not have any contamination came from a verbal conversation between the Illinois EPA and Site personnel. The EDR report indicates there is a leaking underground storage tank that contained gasoline. According to site personnel, there was an underground storage tank removed in the late 1980s. During the Site visit there were no obvious areas of stressed vegetation. As it was November most shrubs had lost their leaves. There was no evidence of spills or stained soil. The vast majority of the Site is paved.

6.2 **OFF-SITE SOIL AND GROUNDWATER CONTAMINATION**

A property of potential concern is Go Dan, the closed automotive radiator manufacturing site adjacent to the property on the west side. This business is currently closed. According to Huntsman Site personnel, the Illinois EPA has told them that the Go Dan property is contaminated with lead from the radiator manufacturing operation. Also, there are a series of tunnel that run from the riverfront into the coal producing areas around Peru. When the zinc smelter was operating, coal was delivered from the mines to the smelter via these tunnels. According to verbal communications between Illinois EPA and Site personnel, Go Dan filled the tunnels that led to their property with waste. It is unknown how Illinois EPA plans to address this situation.

Review of the EDR Report (Appendix C) indicates that the following properties have issues that may be of potential concern.

- National Sheet Metal (address unknown), mapped source 18 in the EDR Report, located $\frac{1}{2}$ to 1 mile west of the site was identified on the state's equivalent CERCLIS list with "cleanup started or completed." The EDR report did not give the specifics of what the cleanup involved.
- La Salle Municipal (mapped source 17 of the EDR Report) is a landfill west of route 351 south located $\frac{1}{2}$ to 1 mile east, southeast of the site was identified on the states equivalent CERCLIS list as a Brownfield program. The EDR report did not give specifics of the status. (This may refer to the Western Clock site. During the Site visit, ERM was told by Site personnel that the Western Clock site had been purchased by the Mayor of La Salle and refitted for light manufacturing).
- Illinois Power Town Gas Plant (mapped source B14 of the EDR Report) located at "south end of Chicago Street", $\frac{1}{4}$ - $\frac{1}{2}$ north, northeast of the Site was identified in the Illinois EPA's remediation database. The EDR report does not provide details on the site.

According to the EDR databases, there have been three leaking underground storage tanks within the vicinity of the Site but address information was so poor they could not be mapped. ERM did not observe these sites during the site walk around. According to the site contact, these sites are greater than one mile from the site. They are:

- Amtul Inc.;
- State of Illinois Department of Natural Resources; and
- Etna Oil Company.

Based on a review of topography, ground water may flow south; therefore, the Illinois Power Town Gas Plant could impact the site. Ground water flow directions can be highly variable, however, and water level measurements from properly installed wells would be needed in order to draw definite conclusions regarding flow directions.

7.0

MISCELLANEOUS

7.1

GOVERNMENTAL INSPECTIONS AND REGULATORY ISSUES

No agency or governmental notices of violation (NOV) or orders are outstanding for the Huntsman Peru Site. In 2002 the Site mistakenly sent soil that was a hazardous waste to a non-hazardous waste landfill. After realizing the mistake, the Site worked with the landfill to remove the material and have it sent to a hazardous waste site. The Site also notified USEPA of the error and an enforcement action was taken against the Site. The EDR database indicates there were also some hazardous waste generator violations in the late 1980's and early 1990's.

The city of Peru conducts an annual wastewater inspection. In July of 2006, the Illinois EPA conducted a RCRA inspection of the Site. The Site was told they would have to file a FOIA request to get a copy of the inspection report. There was no verbal communication of any violations. The Coast Guard conducts an inspection of the site twice a year since it is on a waterfront. Illinois EPA used to conduct an air inspection twice a year, but these have not taken place for several years.

The USEPA ECHO database indicates that the Site has had 1 air inspection in the last 3 years and resulting in no violations. The Site has had one waste inspection in the last 3 years with 1 formal enforcement action. The site has had no violations in the last 12 months. The waste enforcement may refer to the incident when hazardous waste was sent to a non hazardous landfill. Further investigation would be required to reconcile the ECHO enforcement with this incident.

Information on the site's Title V deviations was not available prior to the issuance of this report.

The Site achieved OSHA VPP Star status in June 2006. According to site staff, there was a hot work permit violation that was reported to OSHA by an employee. The Site was fined \$1,500.

There are no material outstanding issues regarding agency inspections or enforcement at the Site.

7.2

FUTURE REGULATORY ISSUES

On November 10, 2003, the EPA published final emission standards for hazardous air pollutant requirements for miscellaneous organic chemical production facilities, referred to as the MON MACT codified in 40 CFR 63 Subpart FFFF. The MON MACT limits the emissions of organic, halogenated, and particulate matter HAPs from continuous and batch reactors, storage tanks, fugitive components, transfer racks, transport vessels and wastewater conveyance and treatment systems. The compliance date is May 10, 2008.

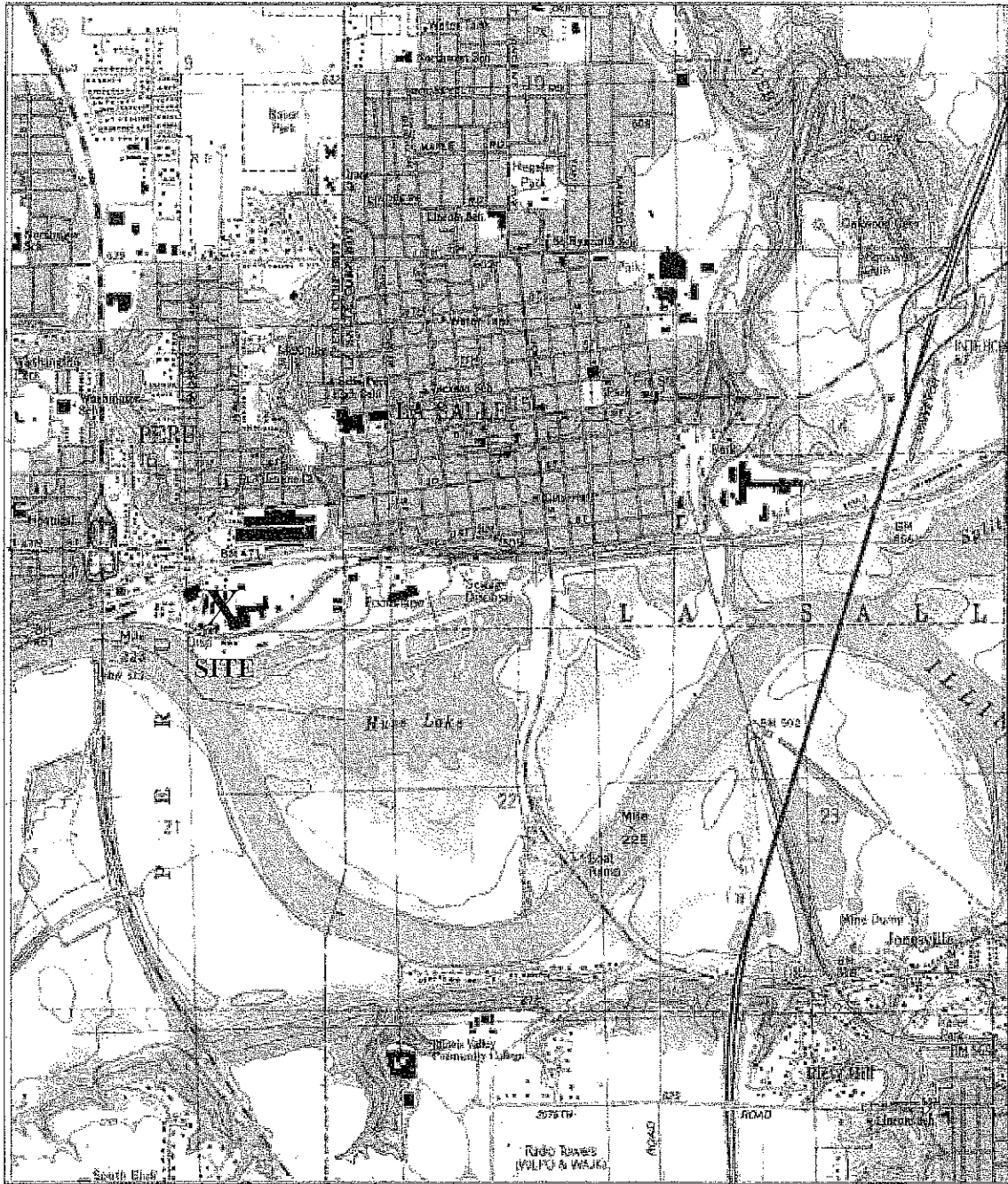
According to Huntsman personnel, the site will be subject to MON; however, no capital expenditures are expected to conform to the rule.

ENVIRONMENTAL, HEALTH AND SAFETY FINANCIAL PLANNING

Environmental, health and safety capital expenditures for the Site in 2006 were \$1,500,000. Capital projects included mechanical integrity improvements, construction of the overhead pipe rack to replace corroded pipe and installation of secondary containment around the tank farm. For 2006, EHS expenses were approximately \$800,000. Security was approximately \$140,000 of this amount.

There are no material issues related to environmental, health and safety planning.

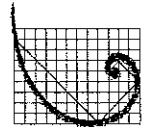
Figures



	TARGET QUAD	SITE NAME:	Huntsman Expandable
	NAME: LA SALLE		Polymer Co LLC
	MAP YEAR: 1993	ADDRESS:	501 Brunner Street
	SERIES: 7.5		Peru, IL 61354
	SCALE: 1:24000	LAT/LONG:	41.325 / 89.1114

**Environmental Resources
Management, Inc.**

**FIGURE 1
SITE LOCATION MAP
Huntsman International LLC
Peru, Illinois**



ERM®

DATE: November 2006

W.O. No.: 0057138

Photo Log
Appendix A

November 2006
Project No. 0057138

Environmental Resources Management
7700 Chevy Chase Drive, Suite 110
Austin, Texas 78752
(512) 459-4700

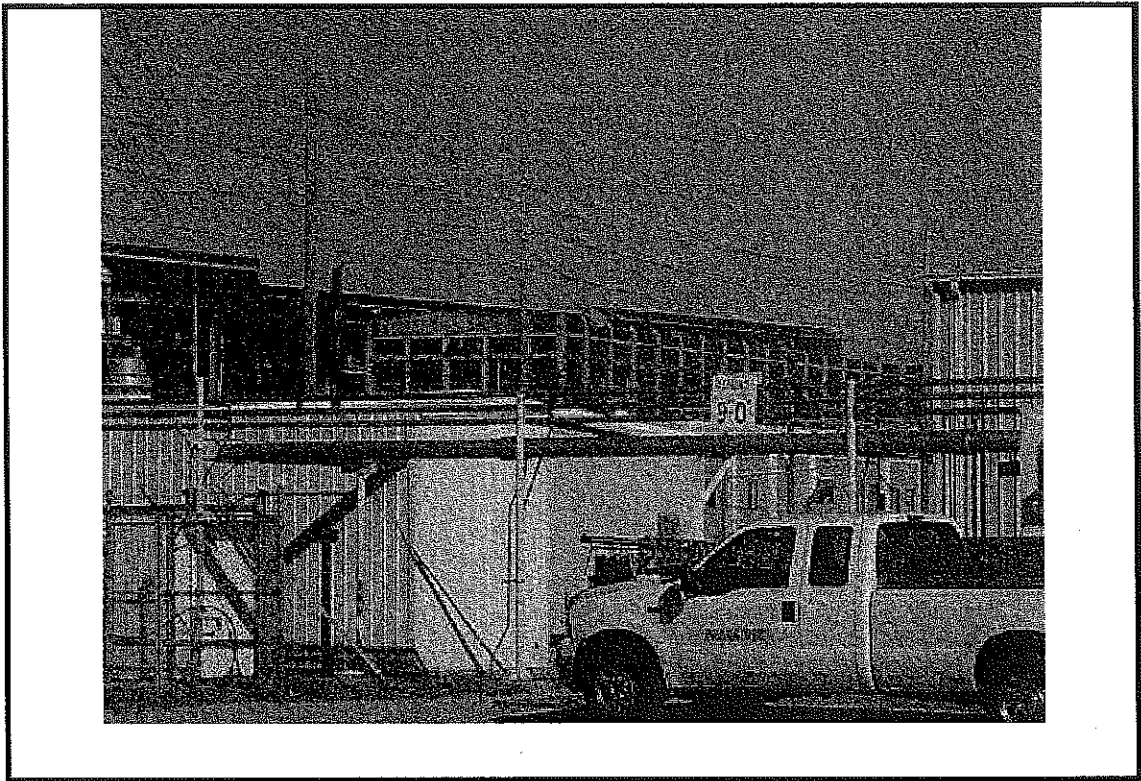


Photo 1: View of former West Clock facility Facing Northeast

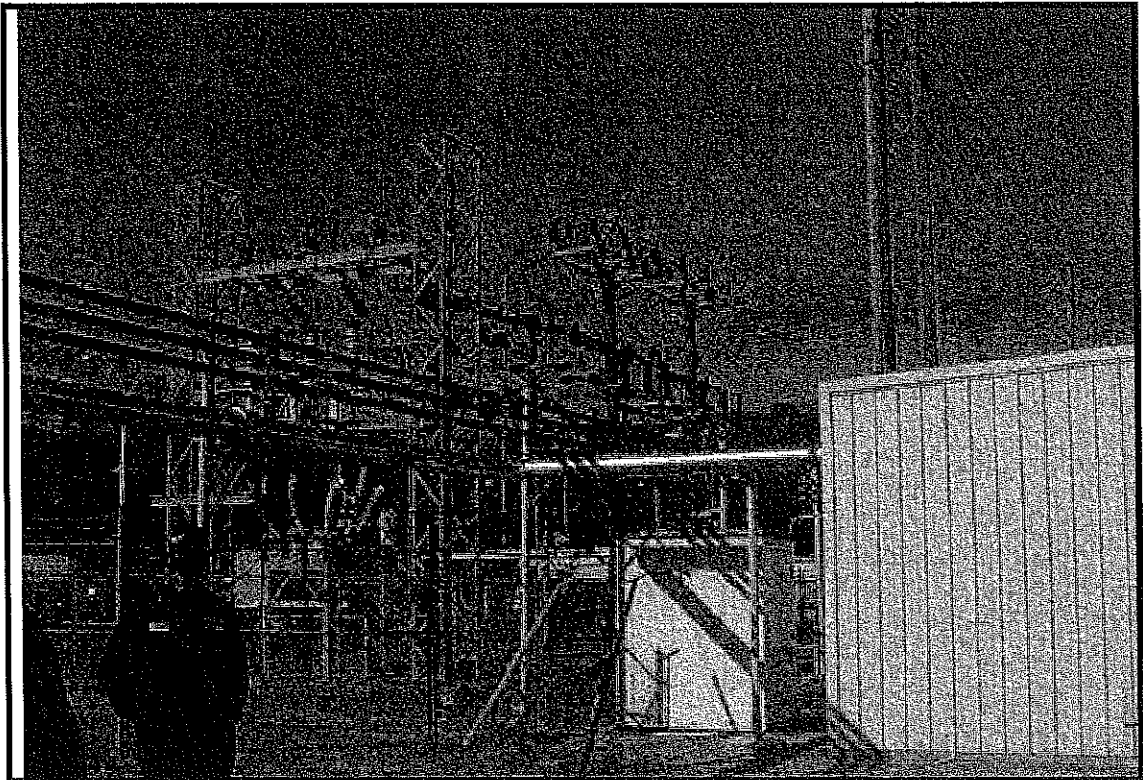


Photo 2: Shared electrical substation facilities. Facing Northwest

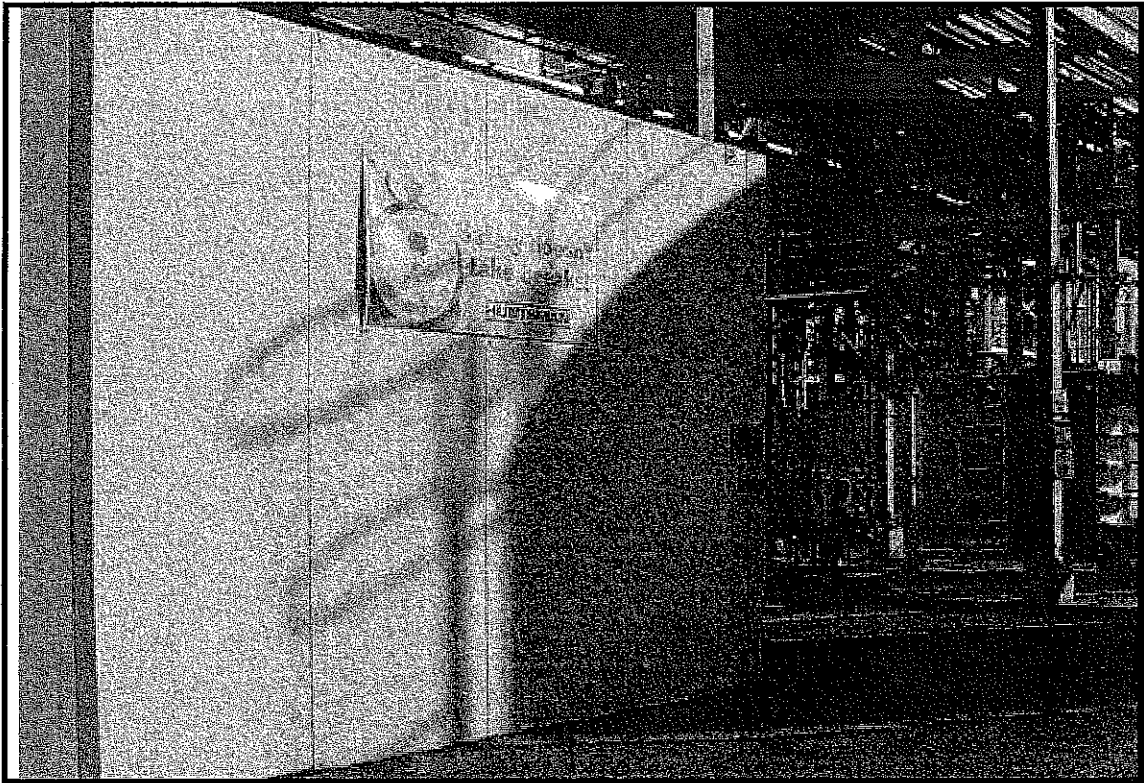


Photo 3: Noise abatement material on process building. Facing Southeast.

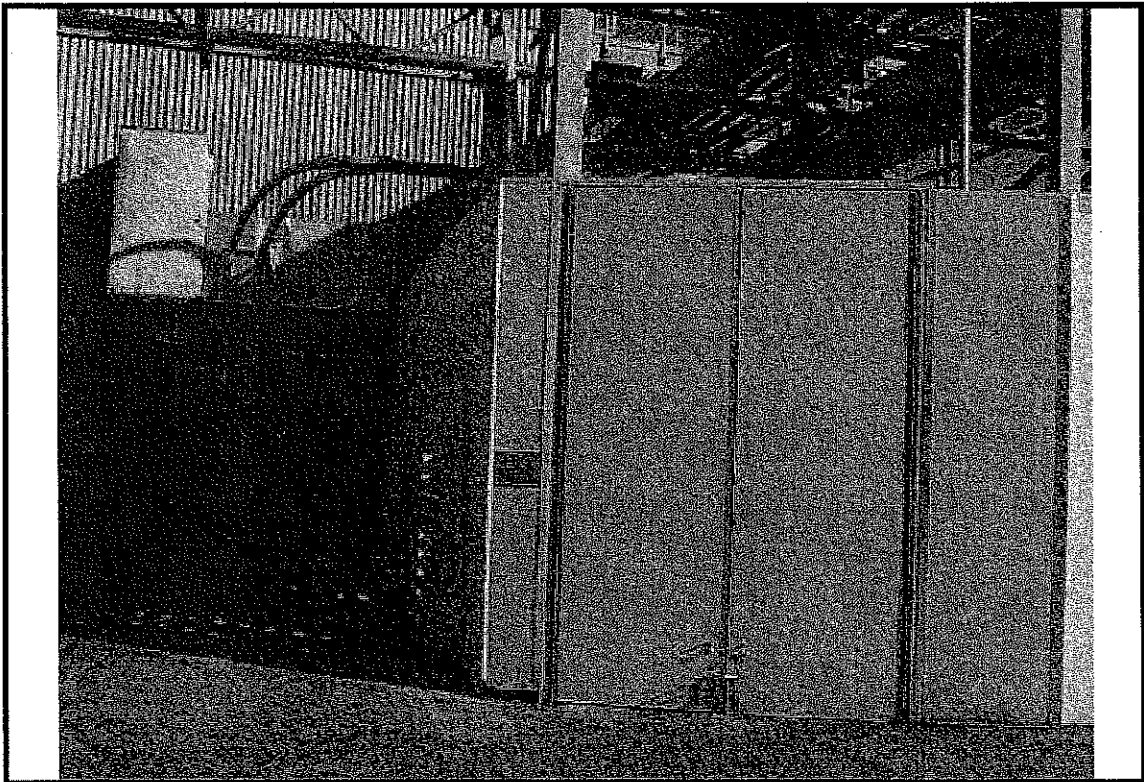


Photo 4: Noise abatement material on process building. Facing East.



Photo 5: View water catch basin. Facing West.

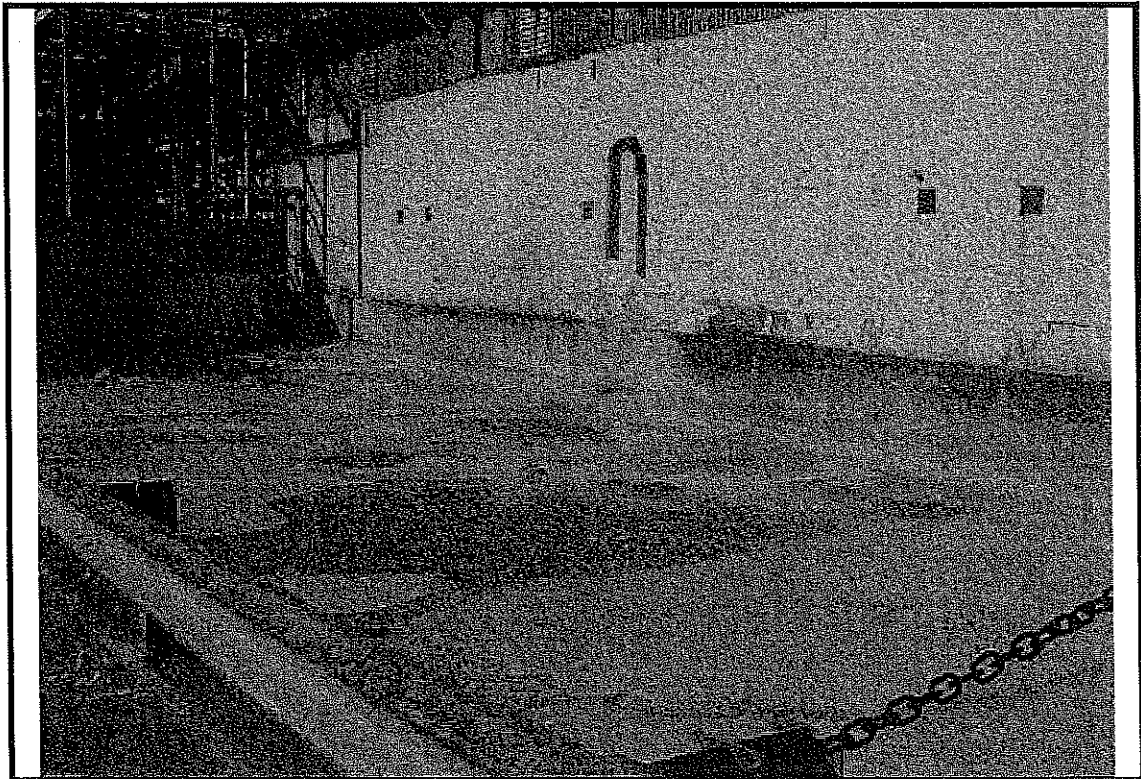


Photo 6: View water catch basin. Facing West.

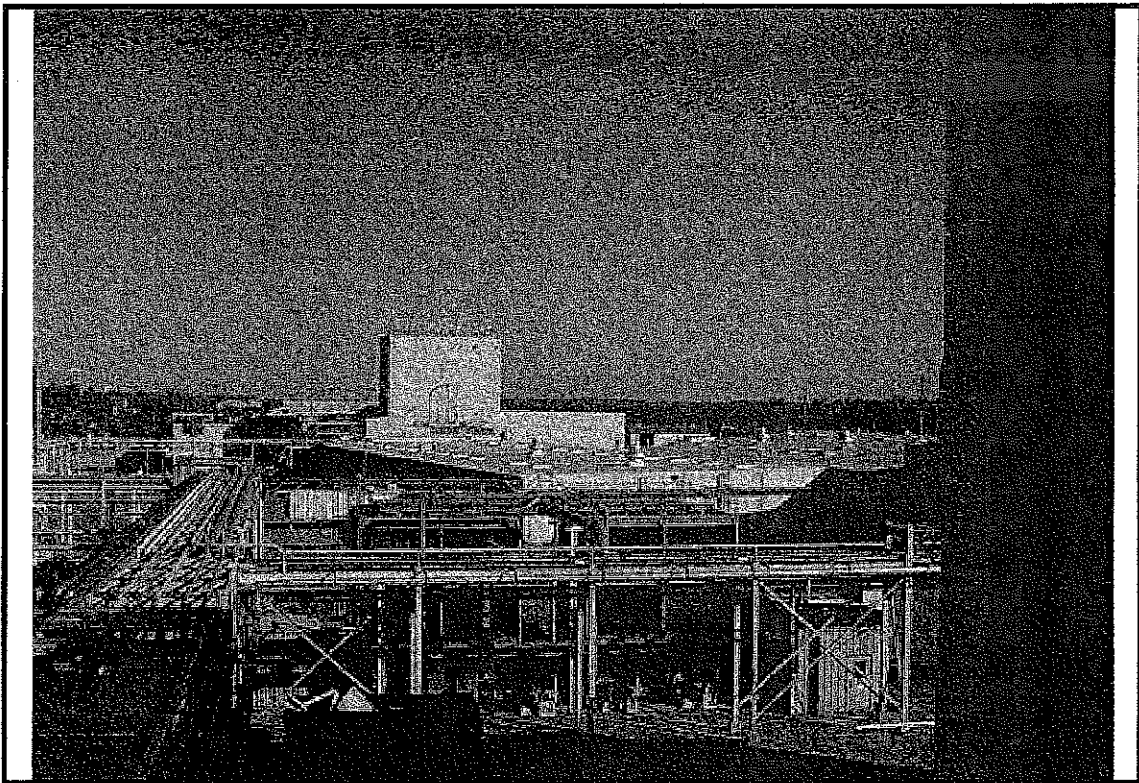


Photo 7: View of Building 2 Courtyard

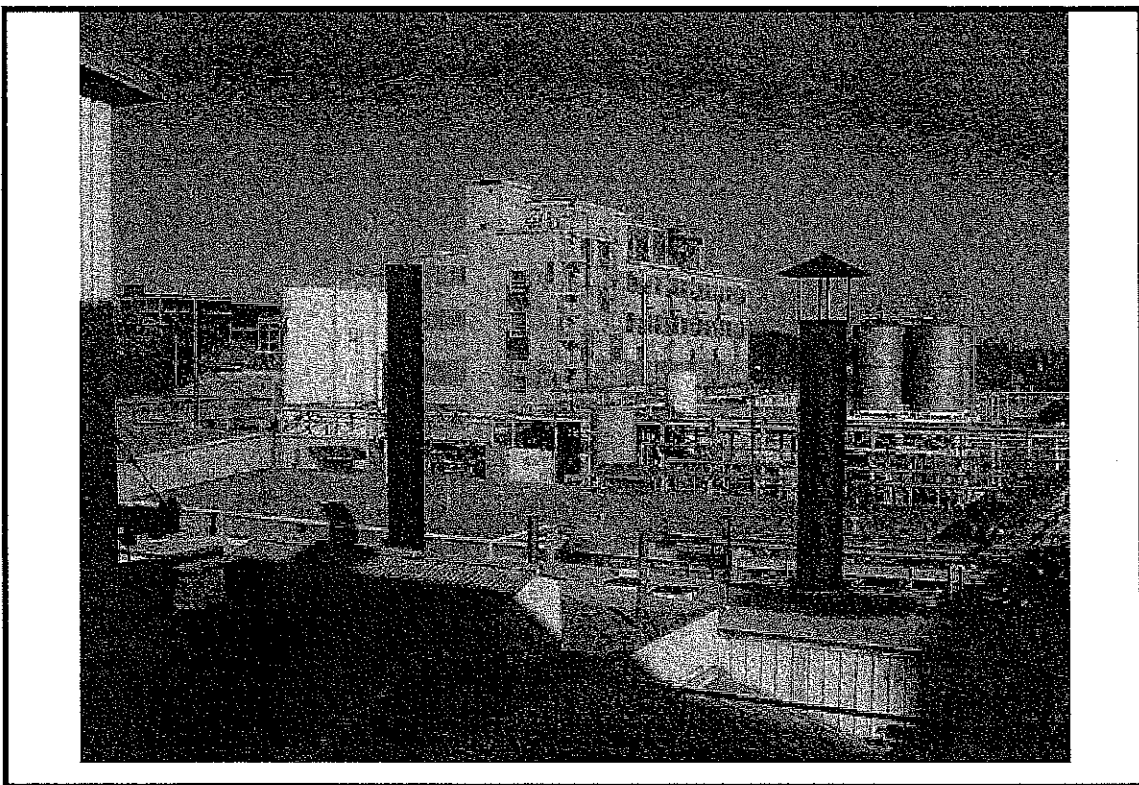


Photo 8: View of EPS Polymerization Building 4. View to Northeast.

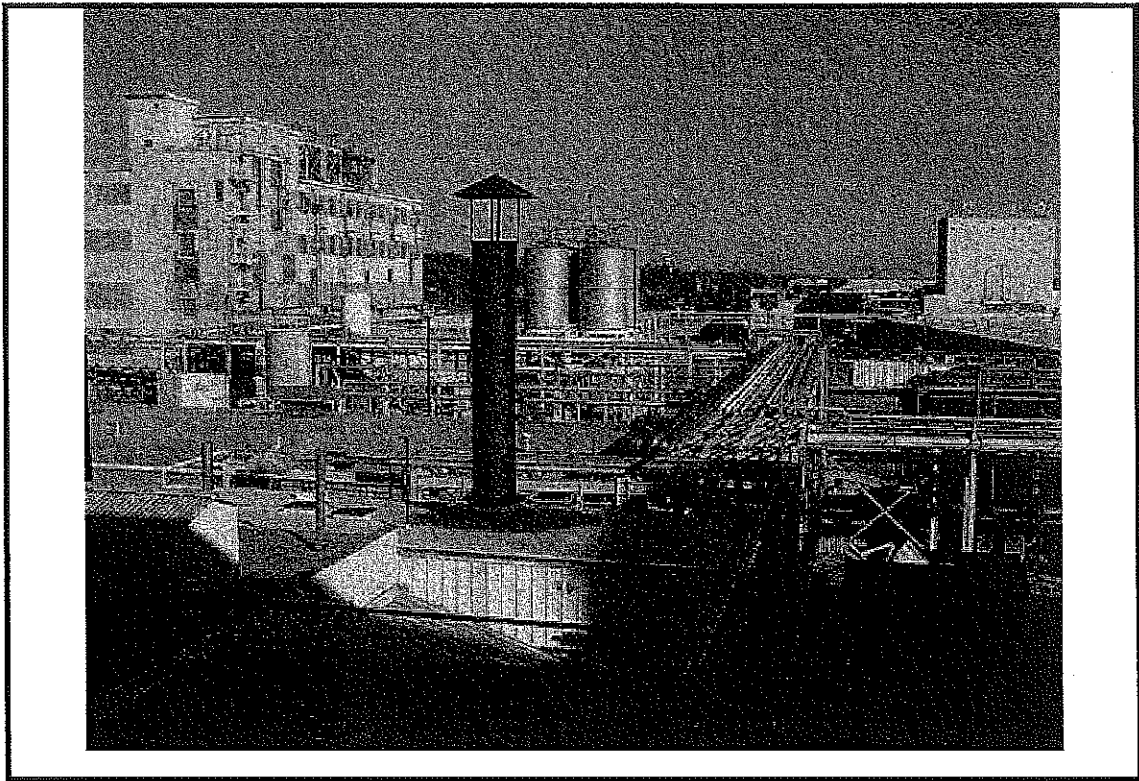


Photo 9: View Building 4, Bead Recovery and Truck Loading Silos. View to East.

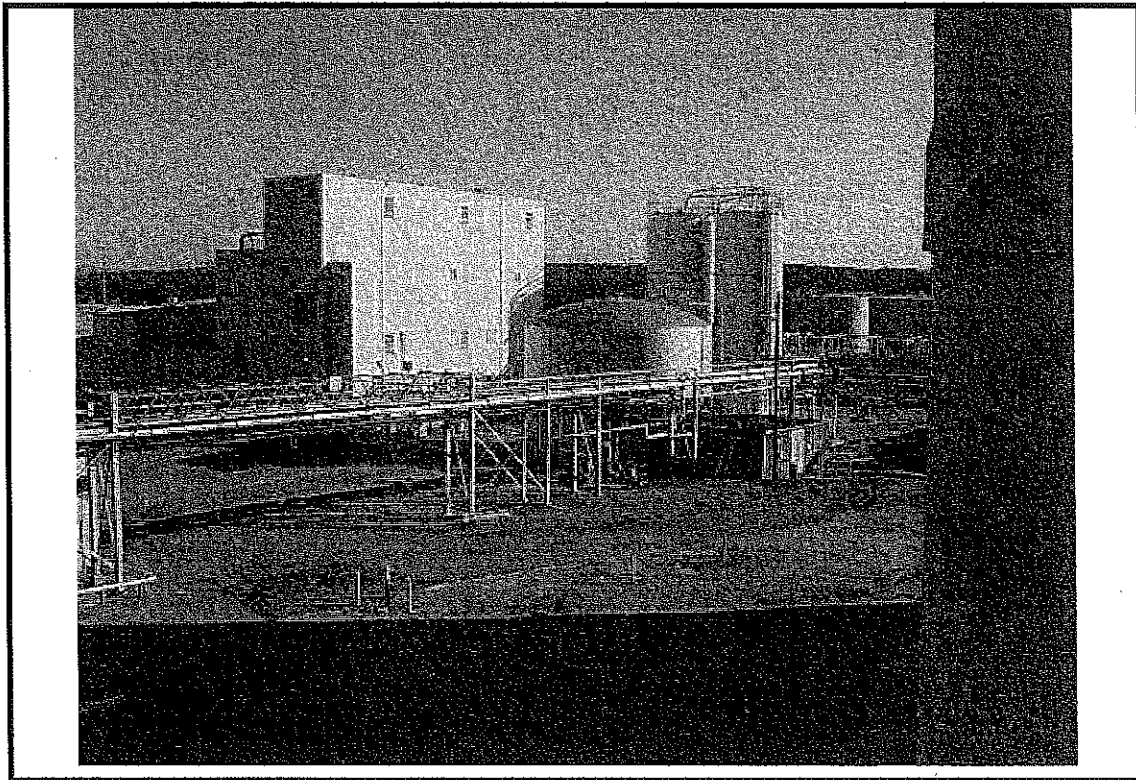


Photo 10: View of South Extrusion Building and Warehouse. View to Southeast.

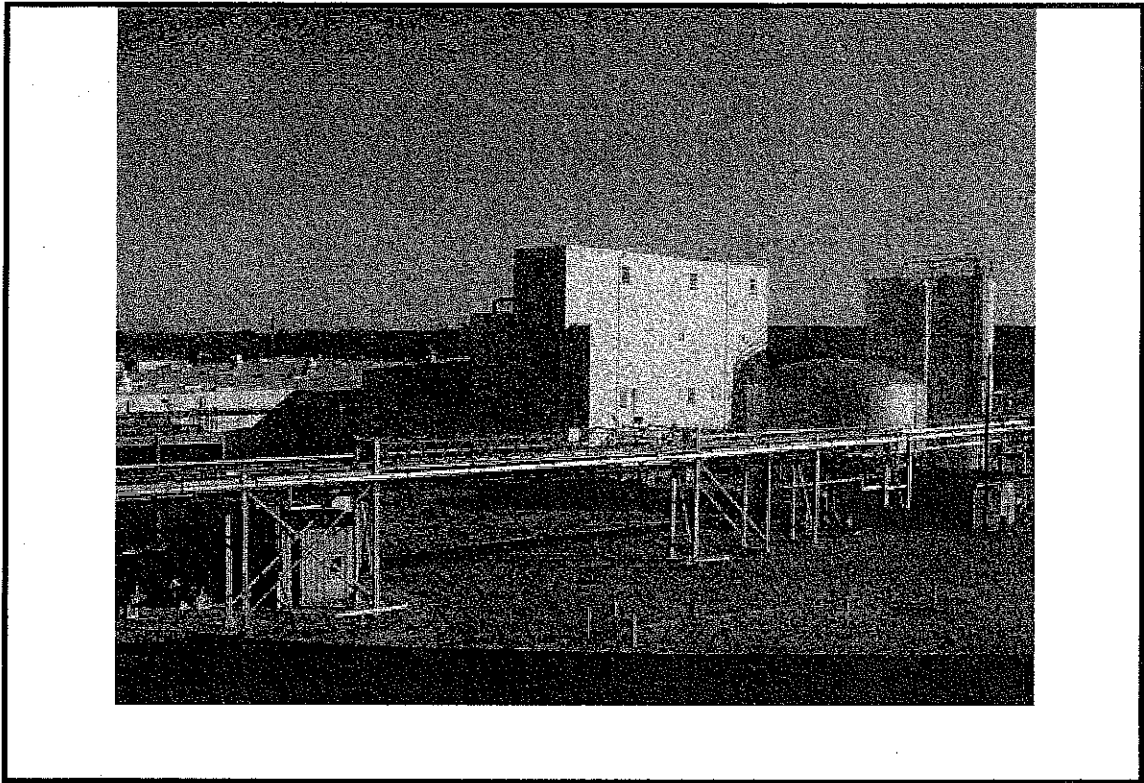


Photo 11: View of Extrusion Building and warehouse. View to Southeast.

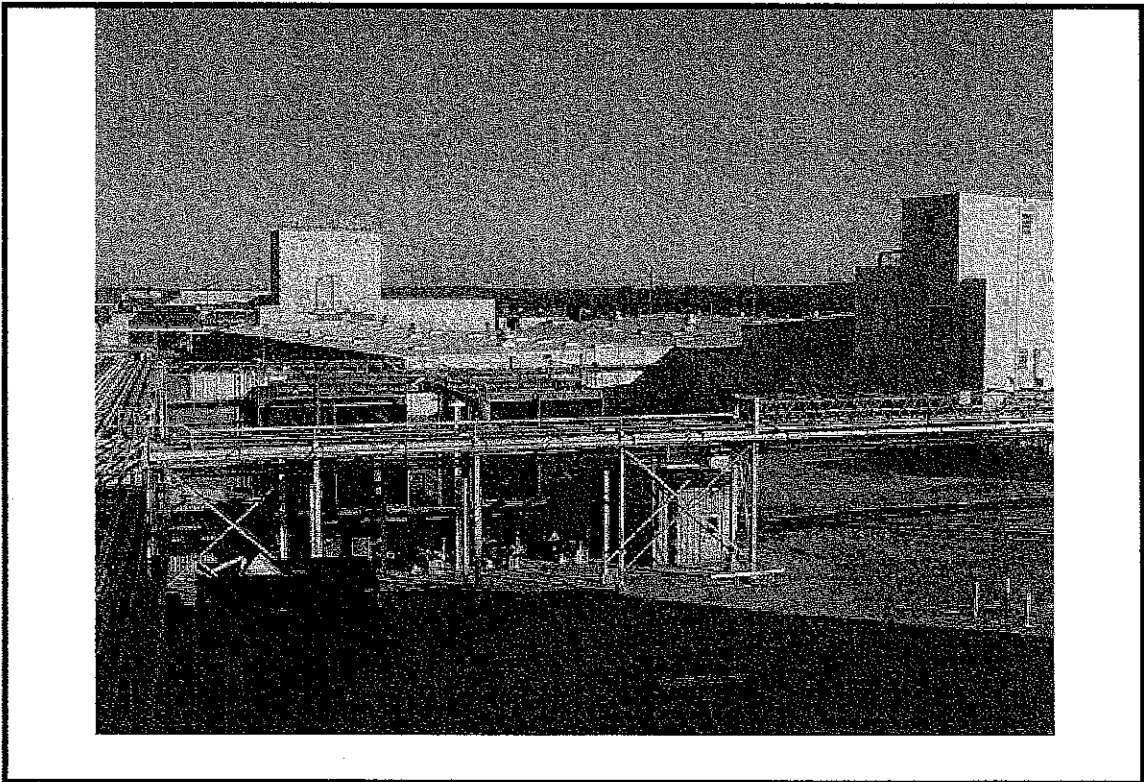


Photo 12: View of Building 8

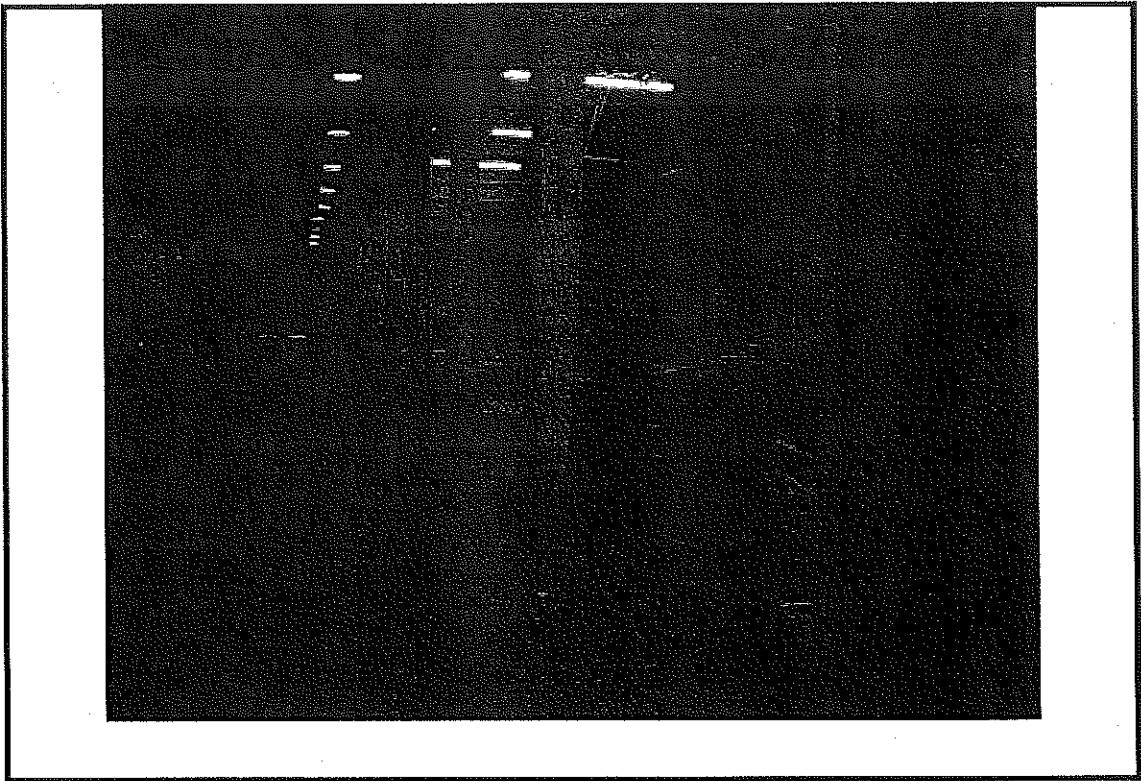


Photo 13: View of 1st floor of Administration Building, Spare Parts. View to East.

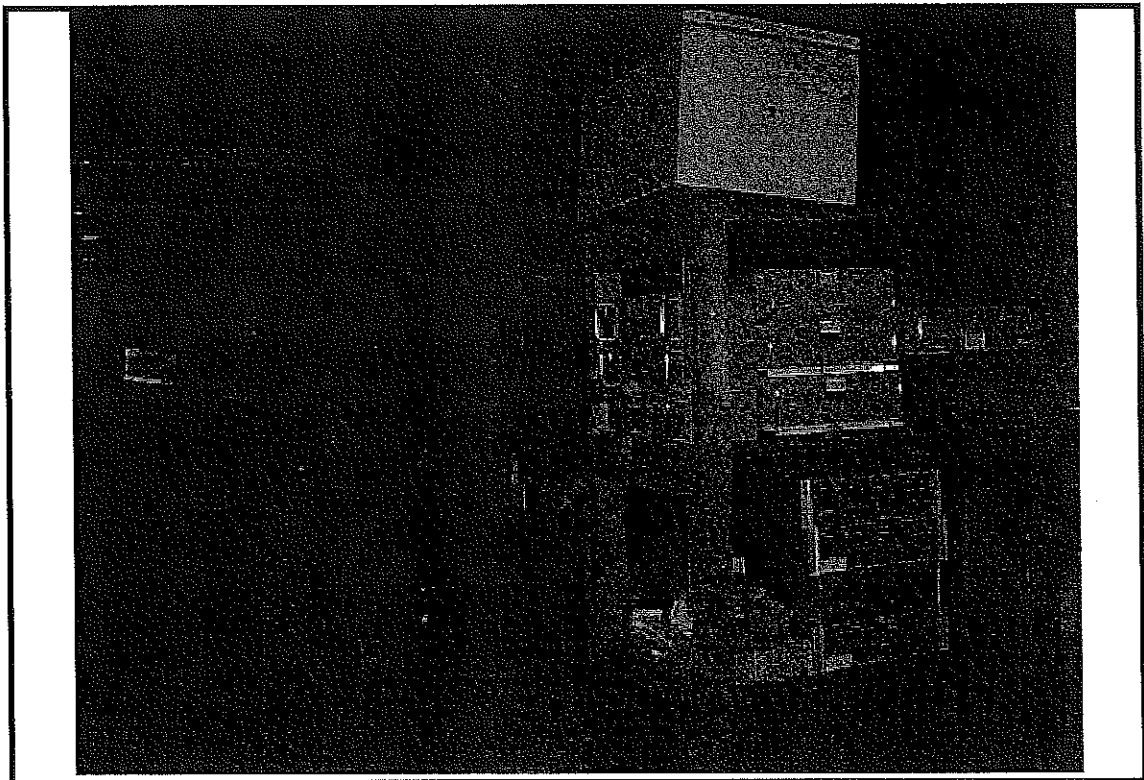


Photo 14: View of 1st floor of Administration Building, Spare Parts. View to West.



Photo 15: View of Building 4 View to South. Gray Panels on Building are Transitite



Photo 16: View of Godan Property Facing Northwest



Photo 17: View of Godan Property Facing Northwest

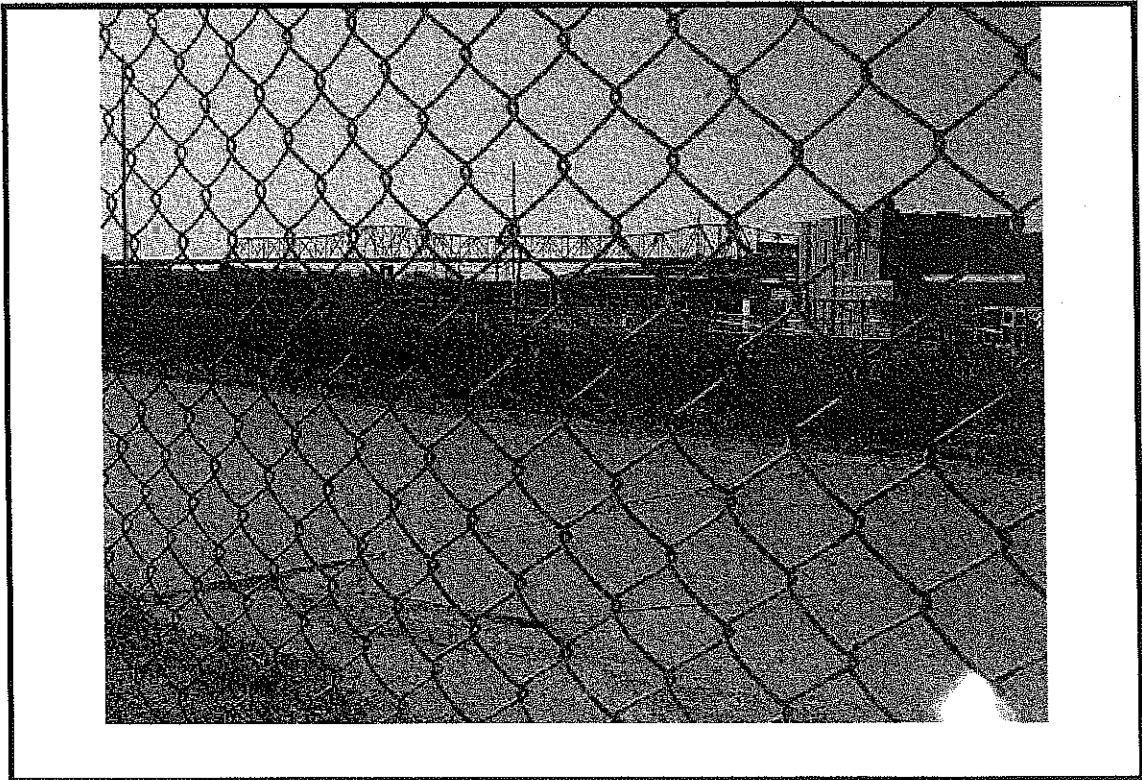


Photo 18: View Peru Waste water Treatment Plant Facing West

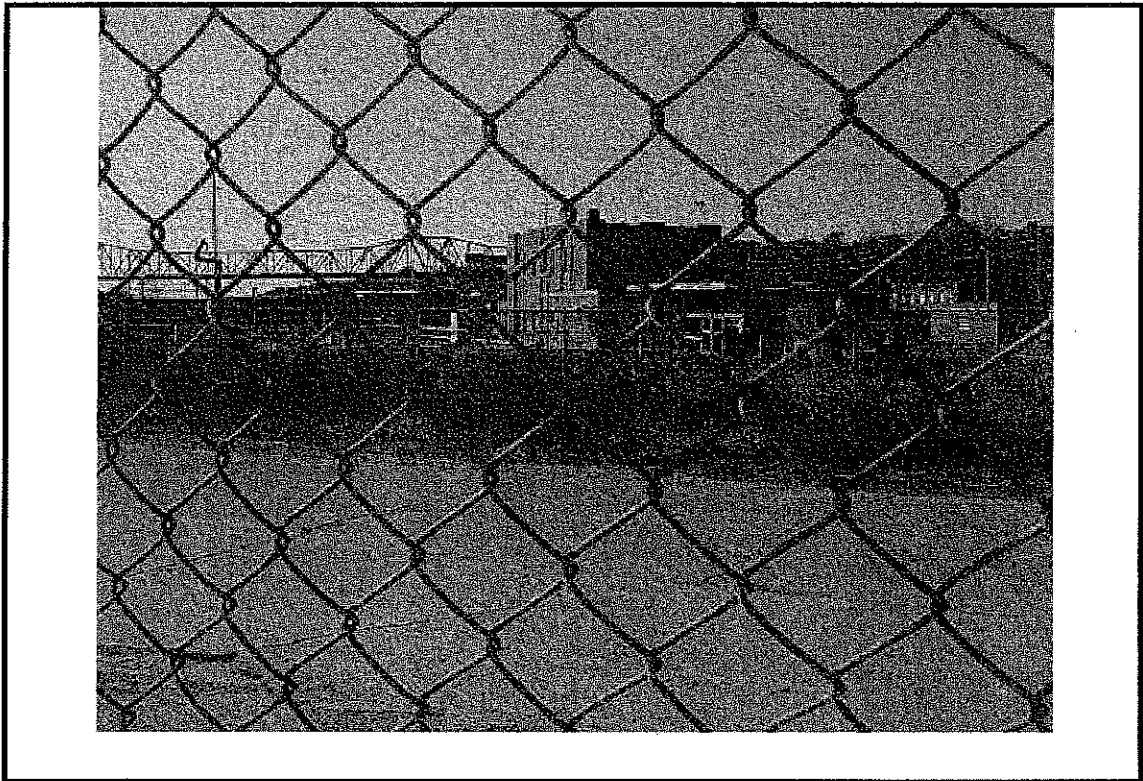


Photo 19: View Peru Waste water Treatment Plant Facing West



Photo 20: View of Styrene Tank Converted to Firewater Tank. View to Southwest.

Sanborn and Historic Topographic Maps
Appendix B

November 2006
Project No. 0057138

Environmental Resources Management
7700 Chevy Chase Drive, Suite 110
Austin, Texas 78752
(512) 459-4700



EDR® Environmental
Data Resources Inc

"Linking Technology with Tradition"®

Sanborn® Map Report

Ship To: Katie Muehr
ERM - Southwest, Inc.
7700 Chevy Chase Drive
Austin, TX 78752

Order Date: 10/27/2006 **Completion Date:** 10/27/2006

Inquiry #: 1784559.3s

P.O. #: NA

Site Name: Huntsman Expandable Polymer Co LLC

Address: 501 Brunner Street

City/State: Peru, IL 61354

Cross Streets:

Customer Project: 0057138
1521019COL 512-459-4700

Based on client-supplied information, fire insurance maps for the following years were identified

1888 - 1 Map 1967 - 3 Maps
1892 - 1 Map
1897 - 3 Maps
1902 - 3 Maps
1909 - 3 Maps
1916 - 3 Maps
1926 - 3 Maps
1949 - 3 Maps

Limited Permission to Photocopy

Total Maps: 23

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"Linking Technology with Tradition"®

Sanborn® Map Report

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7700 Chevy Chase Drive
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Total Maps: 23

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USER'S GUIDE

This User's Guide provides guidelines for accessing Sanborn Map® images and for transferring them to your Word Processor.

Reading Sanborn Maps

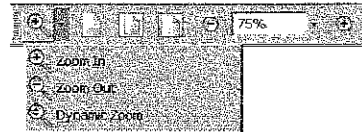
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Organization of Electronic Sanborn Image File

- Sanborn Map Report, listing years of coverage
- User's Guide
- Oldest Sanborn Map Image
- Most recent Sanborn Map Image

Navigating the Electronic Sanborn Image File

1. Open file on screen.
2. Identify TP (Target Property) on the most recent map.
3. Find TP on older printed images.
4. Using Acrobat® Reader®, zoom to 250% in order to view more clearly. (200-250% is the approximate equivalent scale of hardcopy Sanborn Maps.)
 - A. On the menu bar, click "View" and then "Zoom to..."
 - B. Or, use the magnifying tool and drag a box around the TP



Printing a Sanborn Map From the Electronic File

- EDR recommends printing images at 300 dpi (300 dpi prints faster than 600 dpi)
- To print only the TP area, cut and paste from Acrobat to your word processor application.

Acrobat Versions 6 and 7

1. Go to the menu bar
2. Click the "Select Tool"
3. Draw a box around the area selected
4. "Right click" on your mouse
5. Select "Copy Image to Clipboard"
6. Go to Word Processor such as Microsoft Word, paste and print.



Acrobat Version 5

1. Go to the menu bar
2. Click the "Graphics Select Tool"
3. Draw a box around the area selected
4. Go to "Menu"
5. Highlight "Edit"
6. Highlight "Copy"
7. Go to Word Processor such as Microsoft Word, paste and print.



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- Images are grouped into one file, up to 2MB.
- In cases where in excess of 6-7 map years are available, the file size typically exceeds 2MB. In these cases, you will receive multiple files, labeled as "1 of 3", "2 of 3", etc. including all available map years.
- Due to file size limitations, certain ISPs, including AOL, may occasionally delay or decline to deliver files. Please contact your ISP to identify their specific file size limitations.

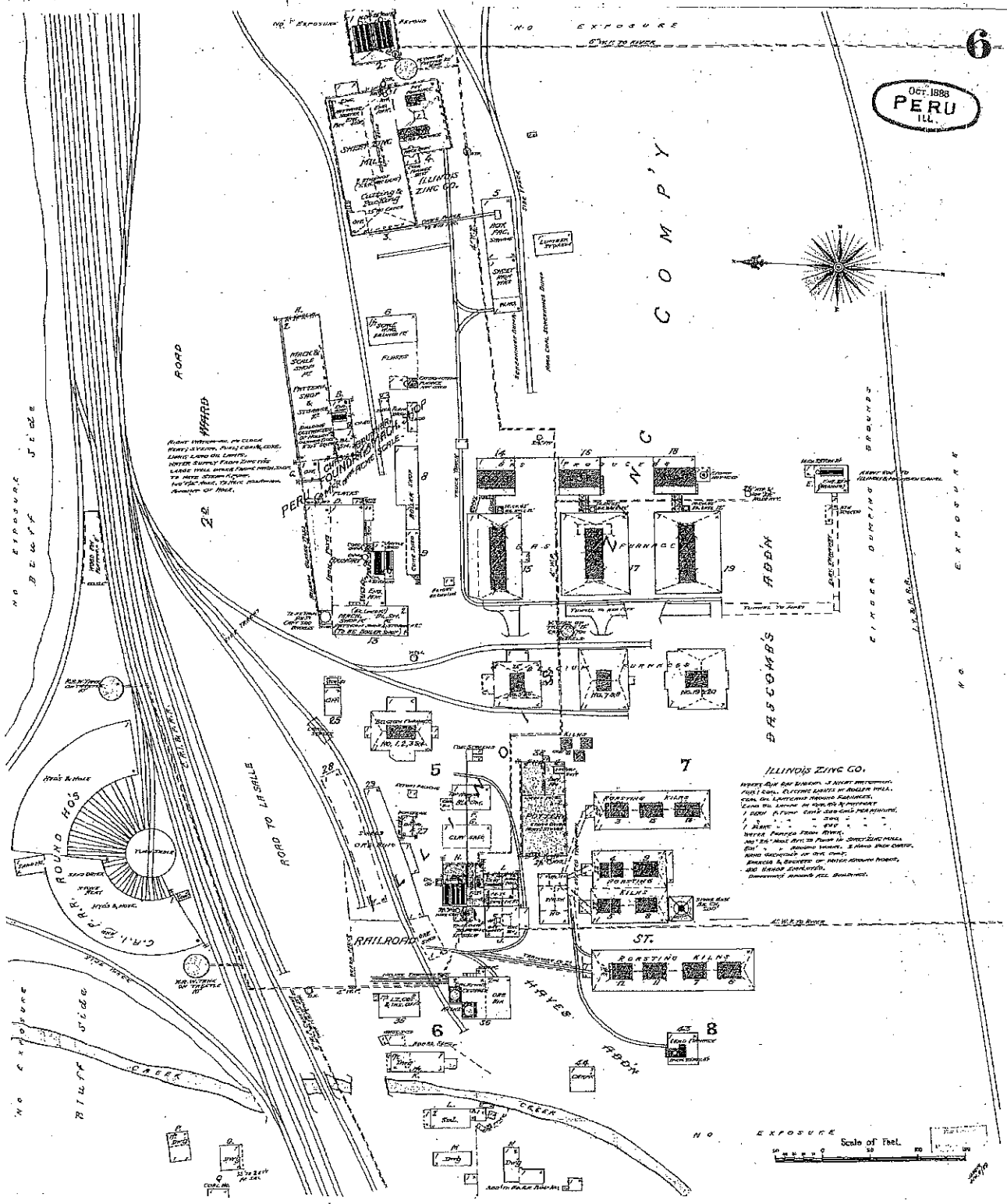


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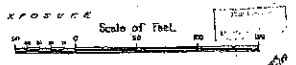
OCT. 1898
PERU
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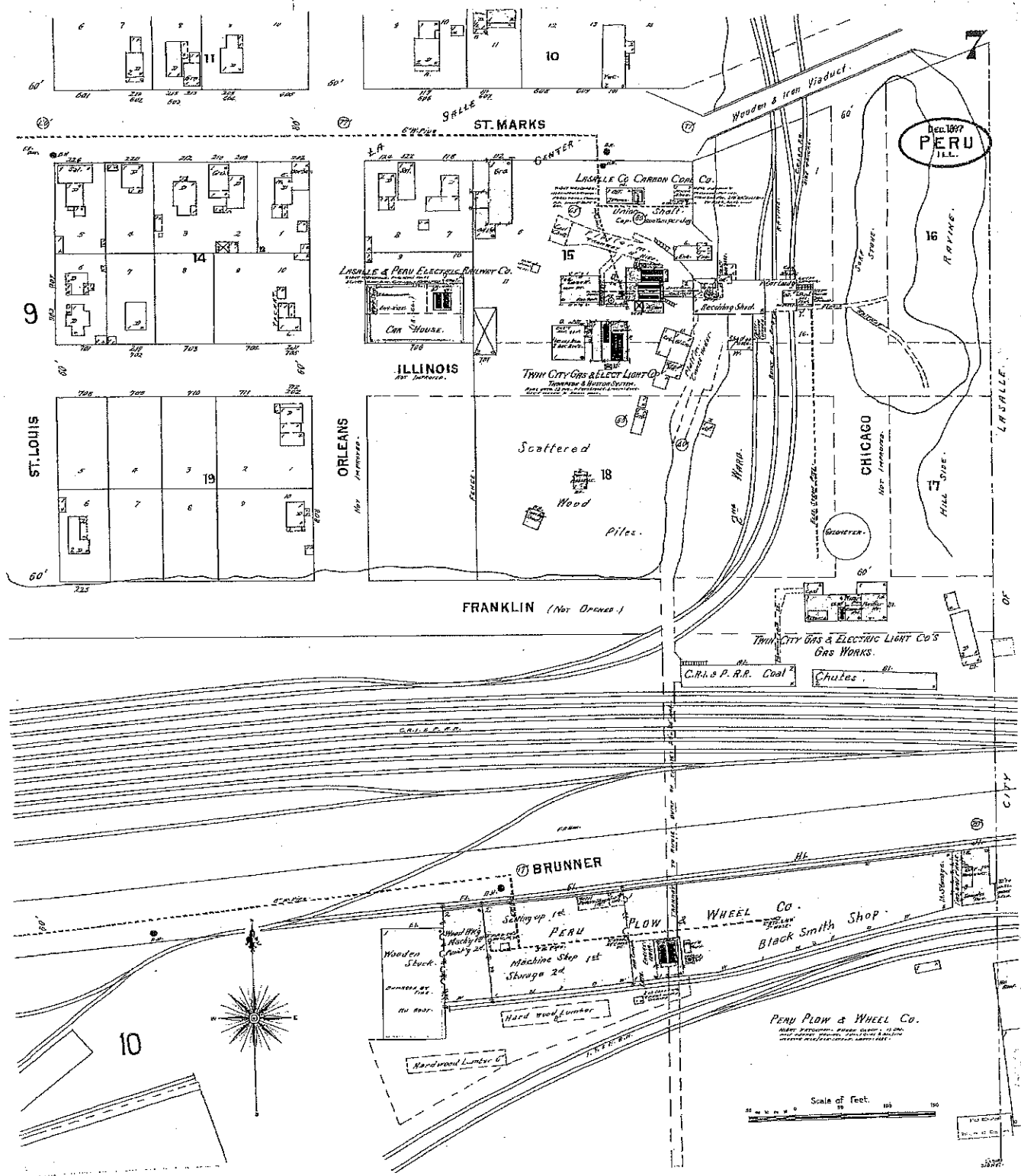
C O M P Y



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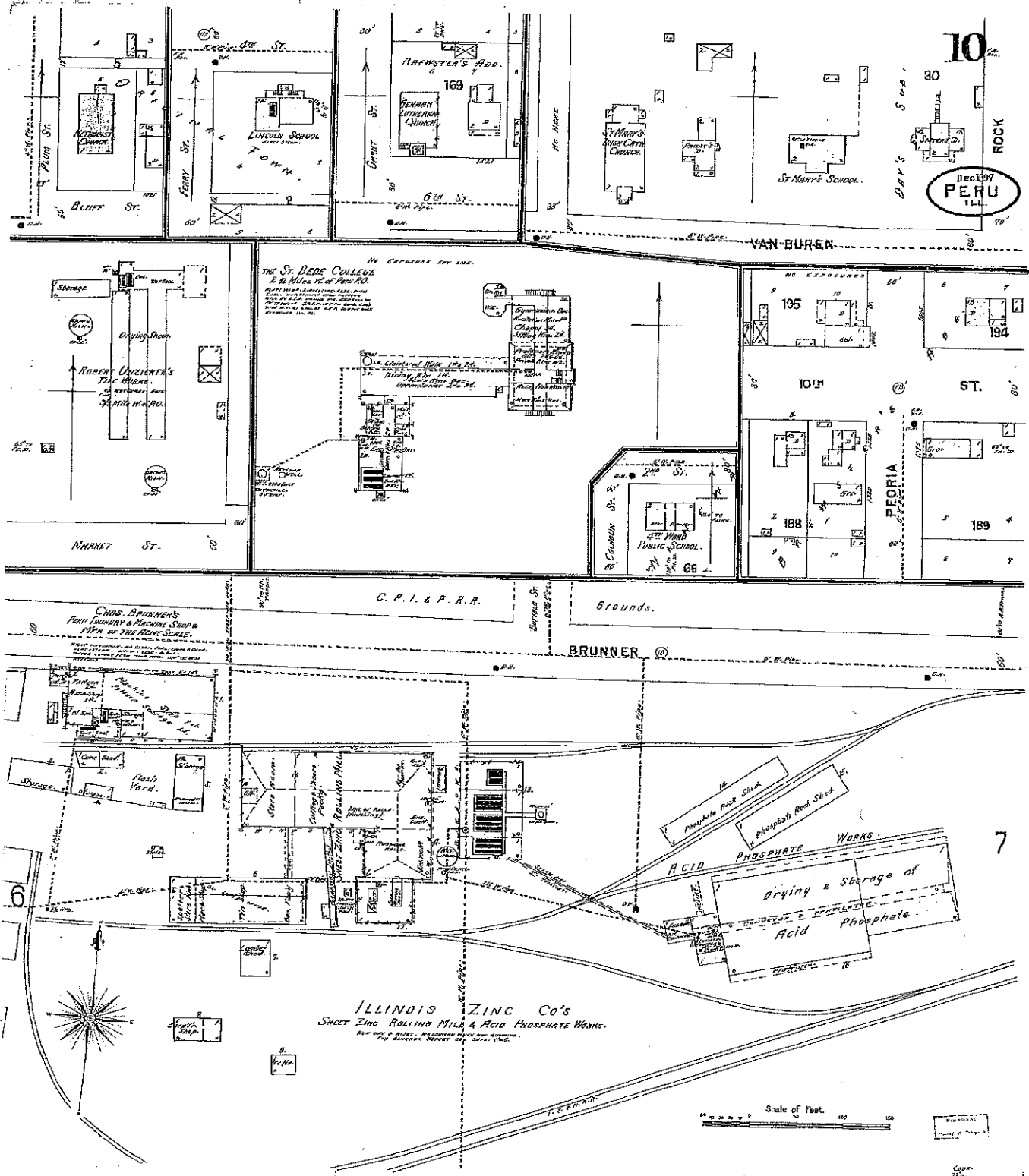




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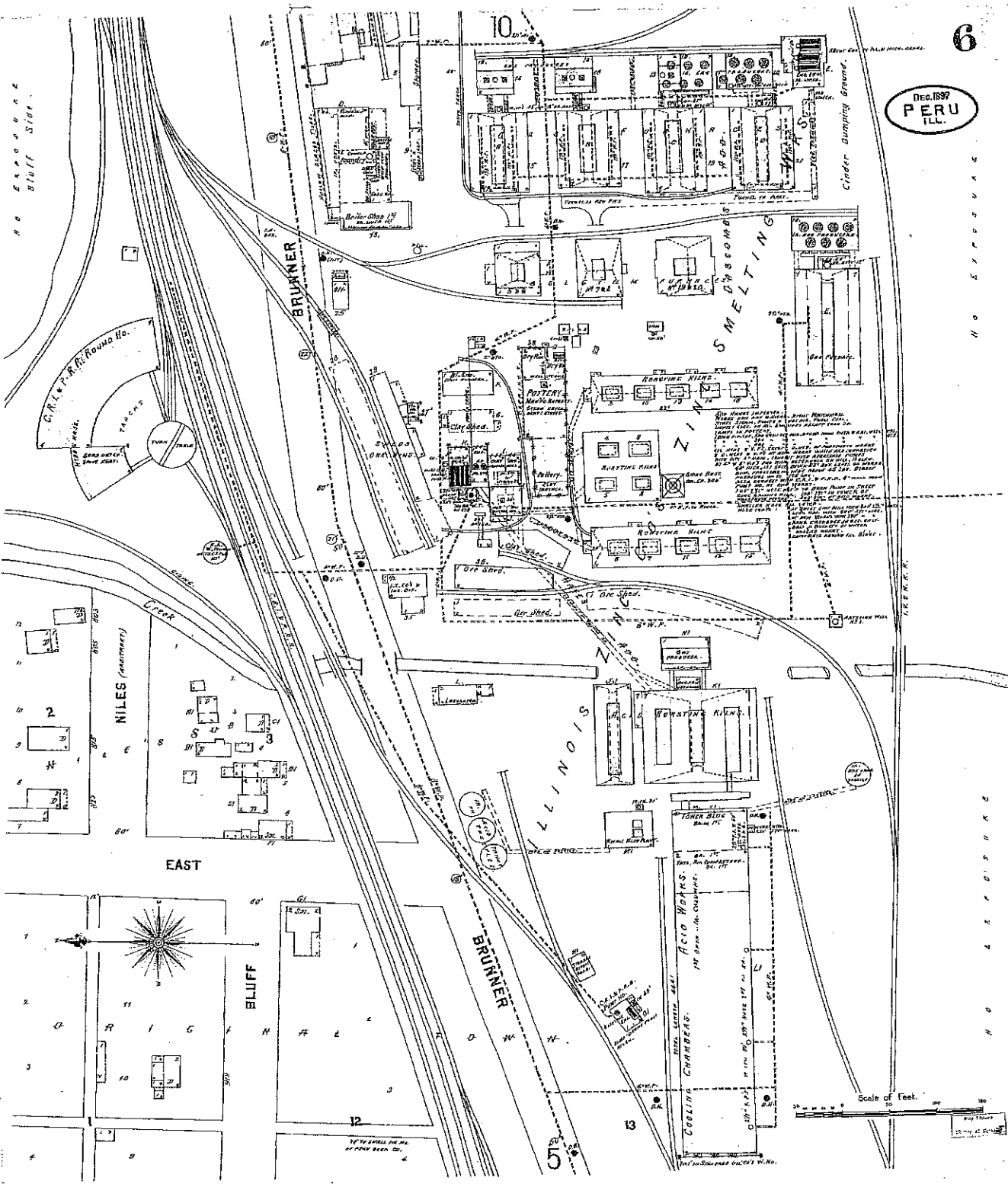
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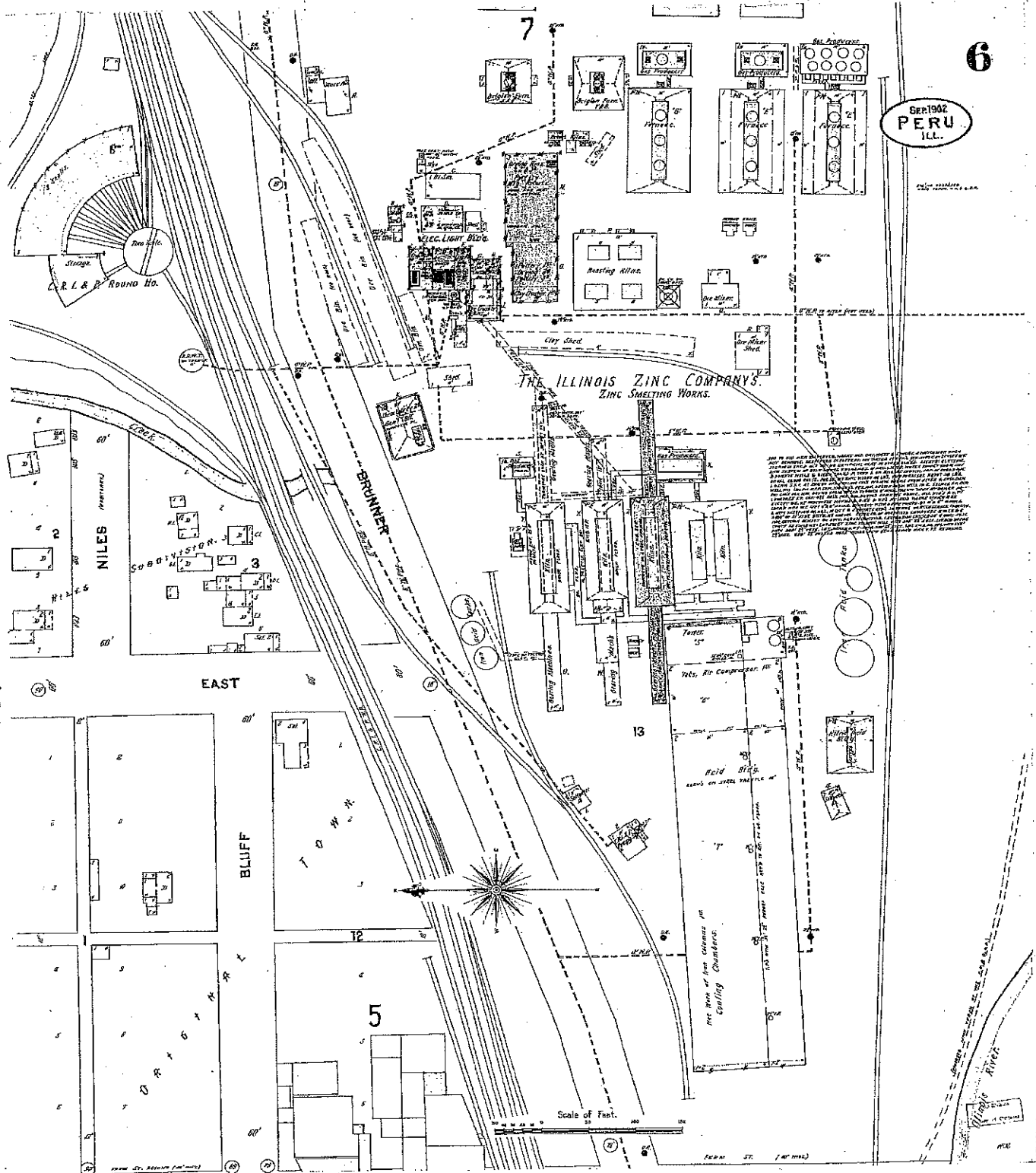
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THE ILLINOIS ZINC COMPANY'S
ZINC SMELTING WORKS.

EAST

BLUFF

5

7

6

13

Scale of Feet.

PERU ST. (740' N.E.S.)

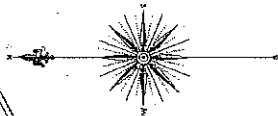
PERU RIVER



SR 1902
PERU
I.L.L.

7

8



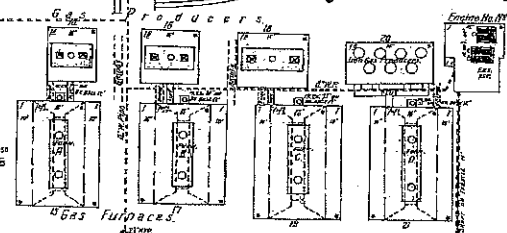
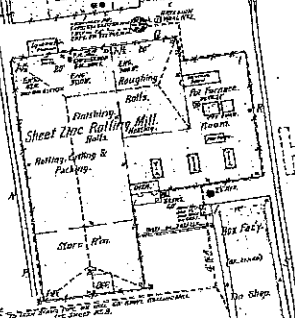
ILLINOIS ZINC CO'S SHEET ZINC ROLLER MILL & ACID PHOSPHATE WKS.

Plan, Elevations and Sections,
Washington,
1902. Survey See Sheet 07-6.

BUFFALO

BRUNNER

CHRIS. BRUNNER'S PERU FOUNDRY & MACHINE SHOP.
M.F.B.; THE IRON SCRAPE & GEAR & ENGINES.



Scale of Feet
0 50 100

6

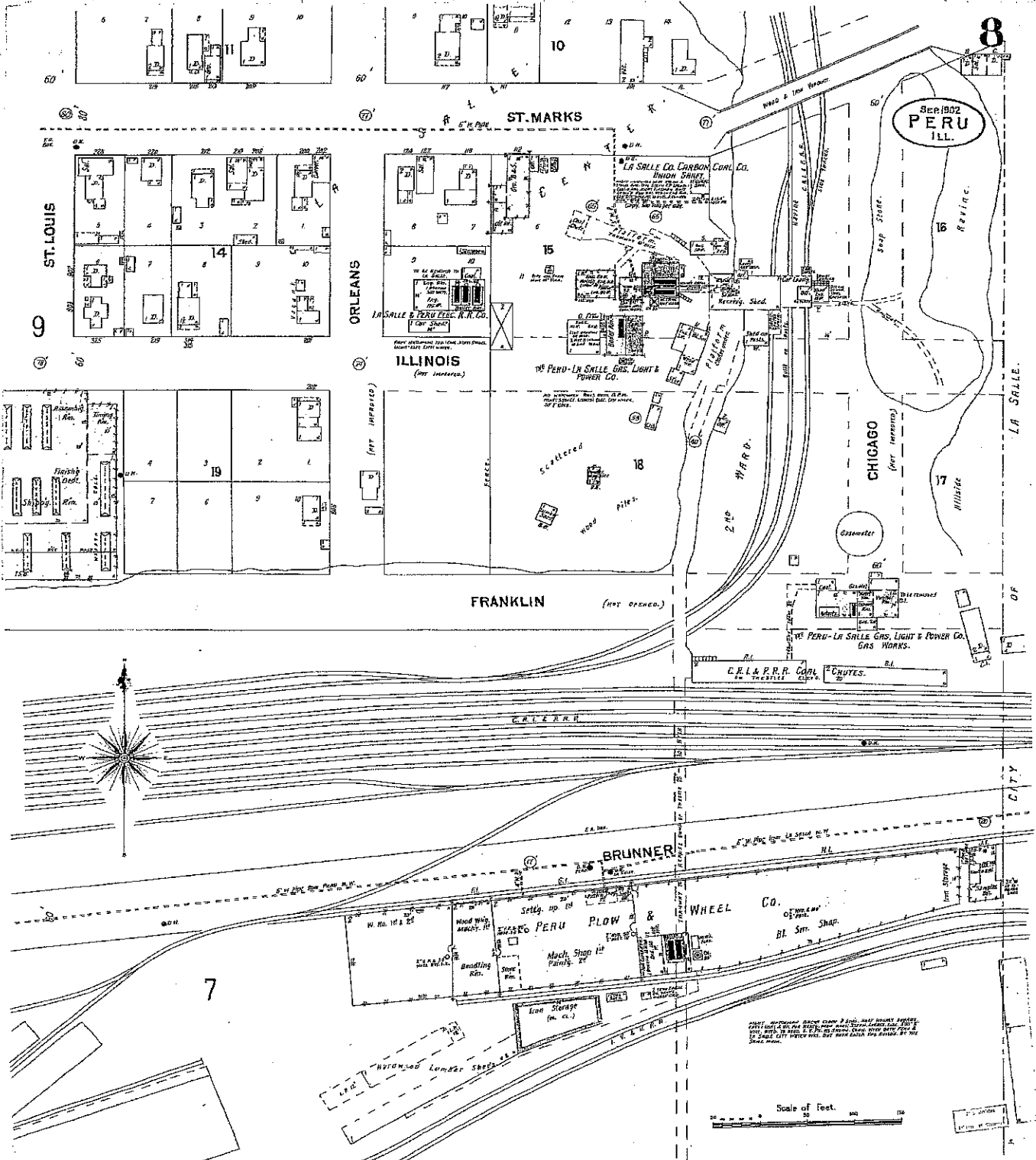
SEE TOP SHEET FOR
PLAN OF C.P.A. R.R.



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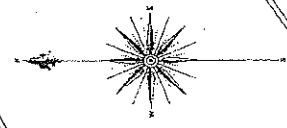


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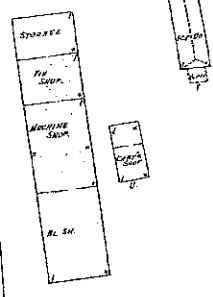
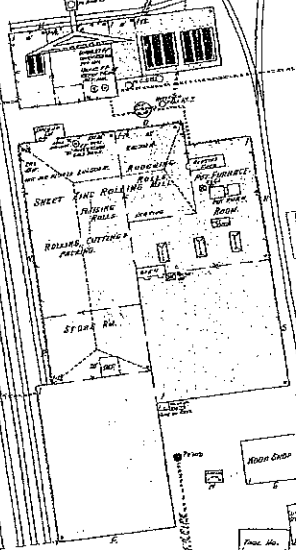
8



ILLINOIS ZINC CO.
SHEET ZINC ROLLER MILLS & ZINC PHOSPHATE WORKS.

BUFFALO

BRUNNER
CHAS. BRUNNER'S PERU FOUNDRY & MACHINE SHOP.
MFG. OF THE FINE STEEL & GAS & GASOLINE ENGINES.
MACHINE SHOP, 10' W. 10' N. 10' E. 10' S.



Scale of Feet.
0 50 100

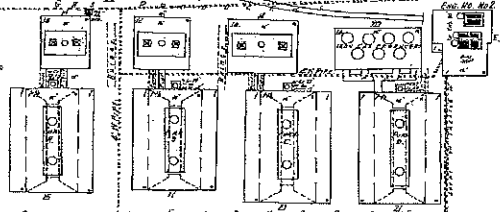


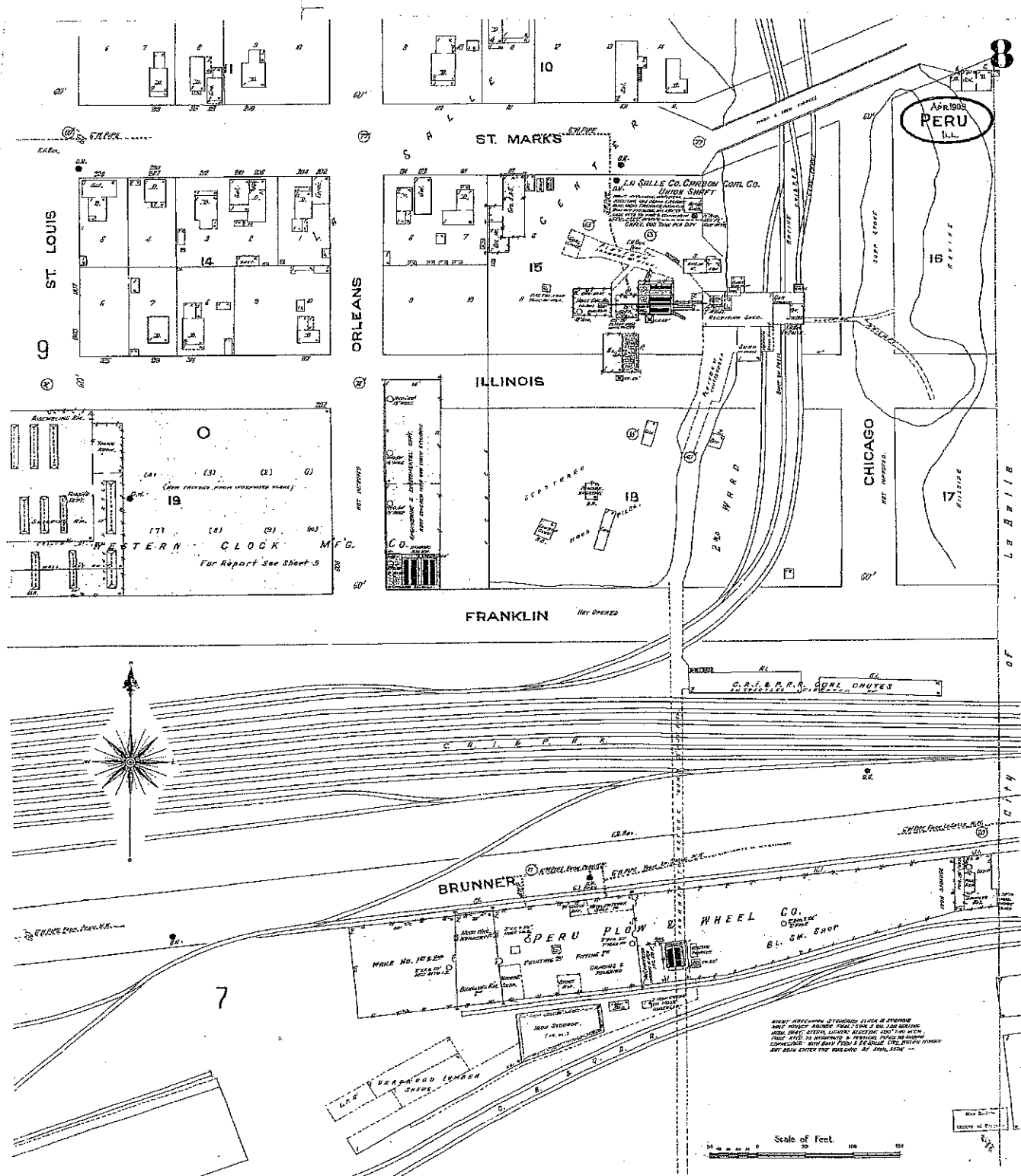
Fig. 101
Issued at Chicago



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PERU
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ST. LOUIS
CO.

ST. MARKS

ORLEANS

ILLINOIS

FRANKLIN

CHICAGO

LAZARUS

CHICAGO & NORTH WESTERN
RAILROAD

BRUNNER

PERU FLOW

WHEEL CO.

B. S. SHOP

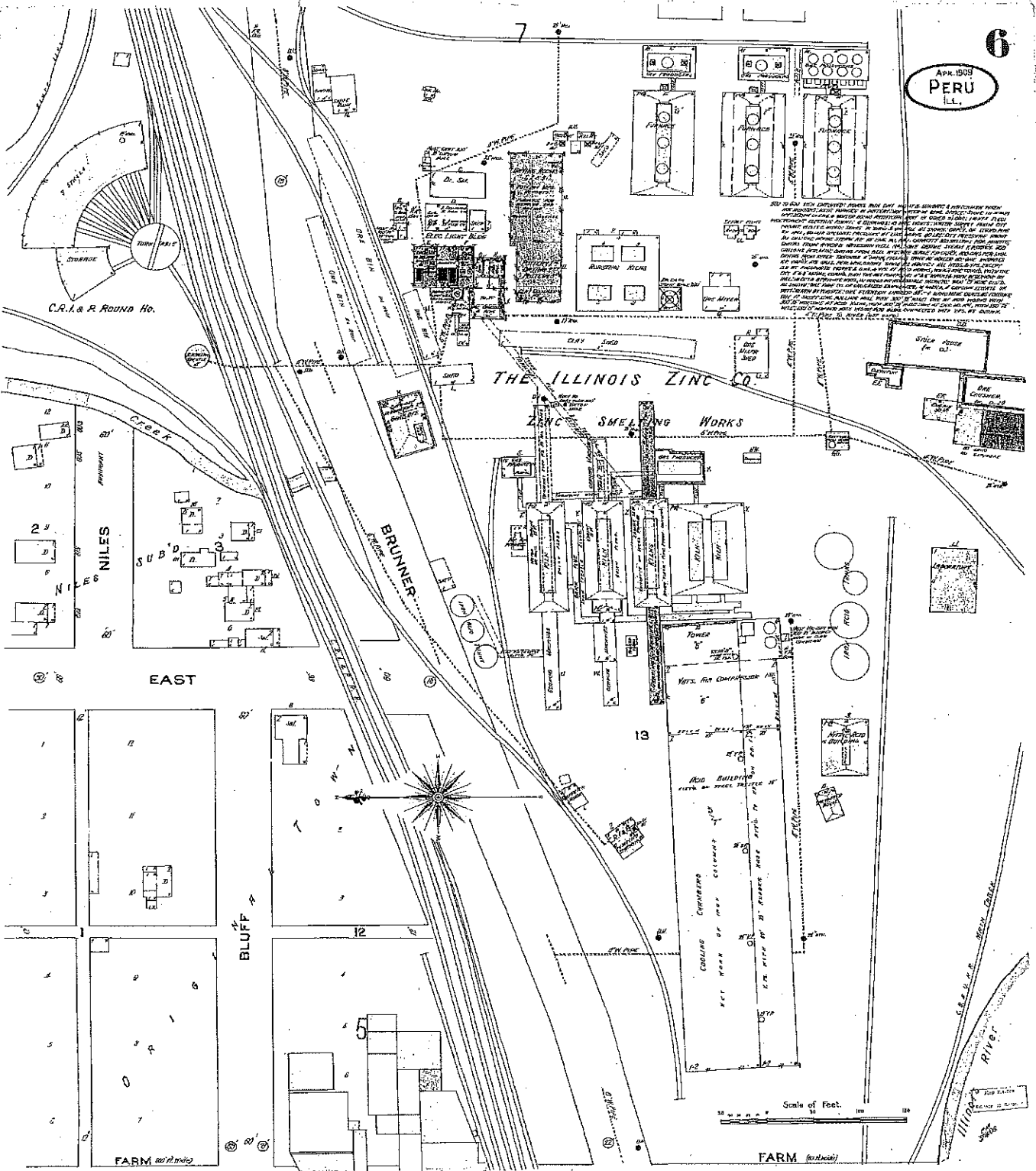
Scale of Feet



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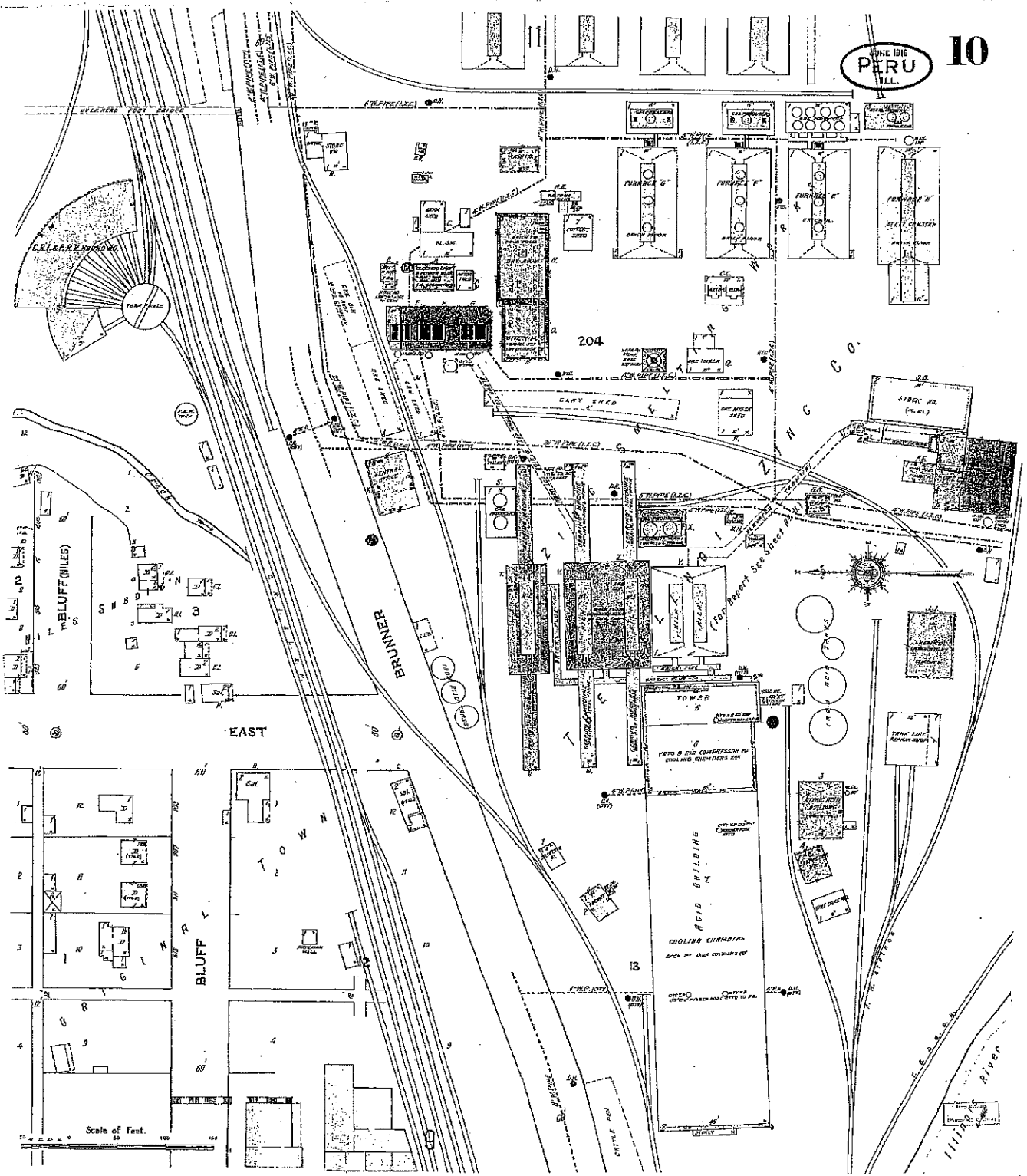




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THE BIG PERU MILL

10

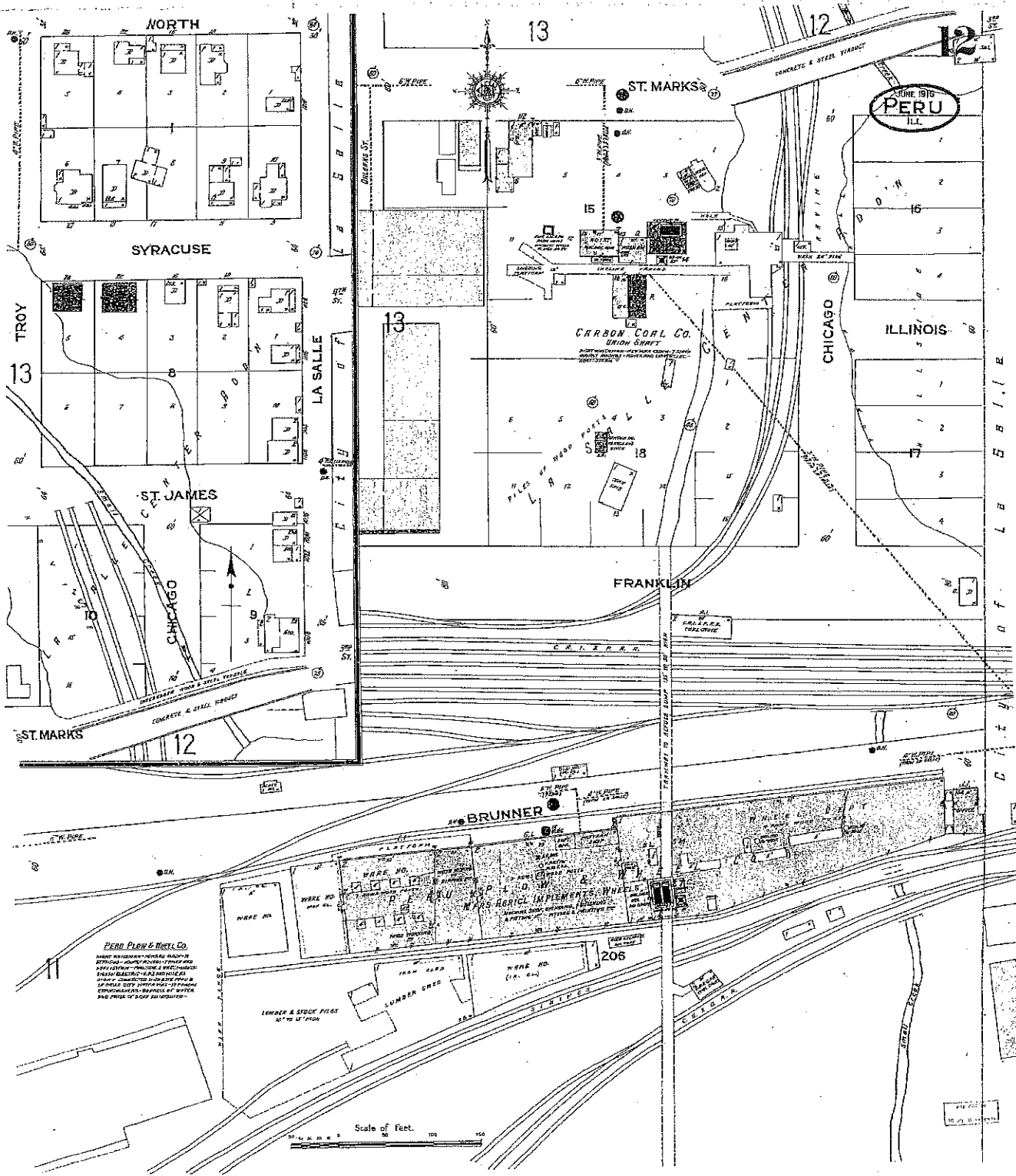


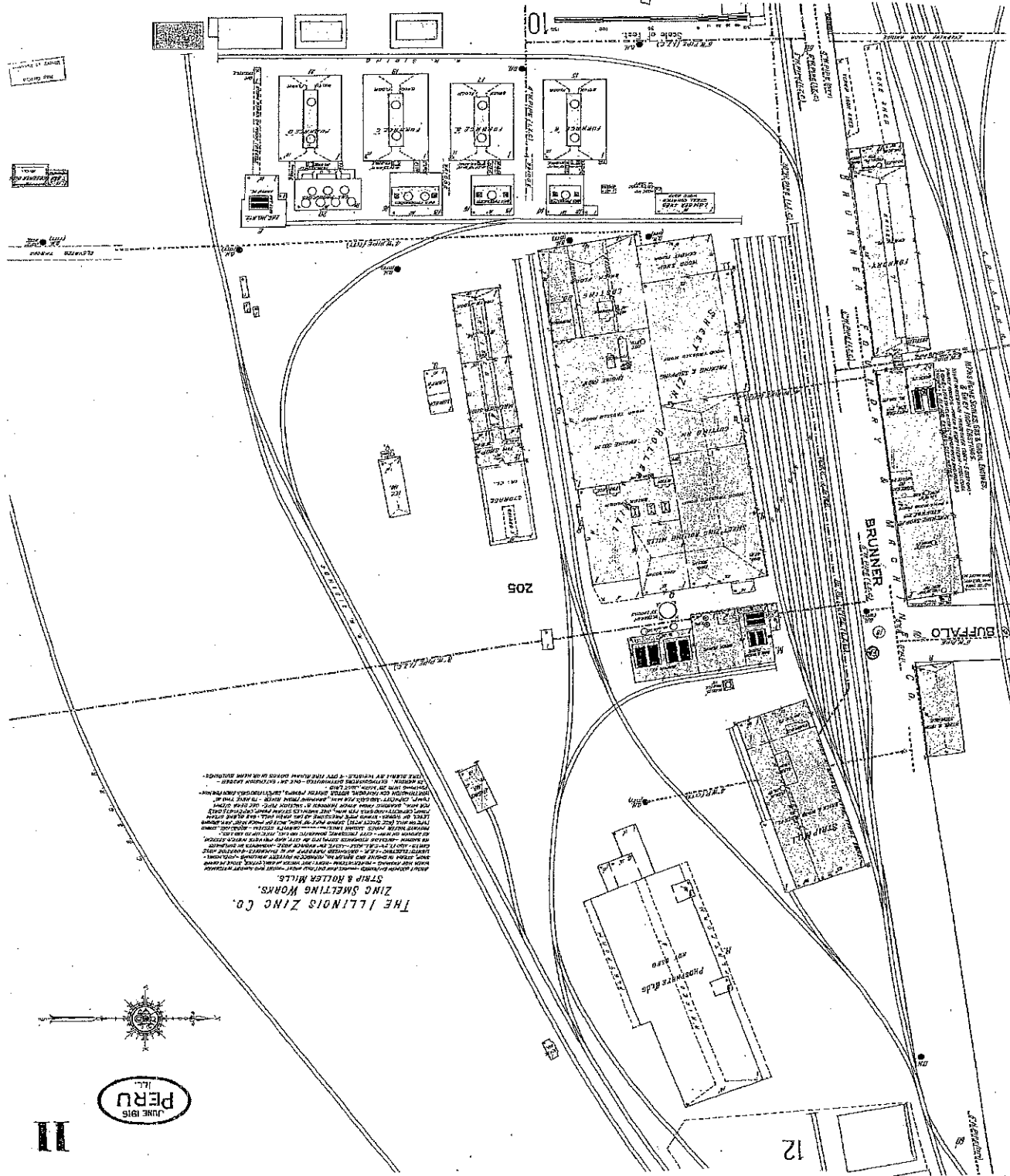


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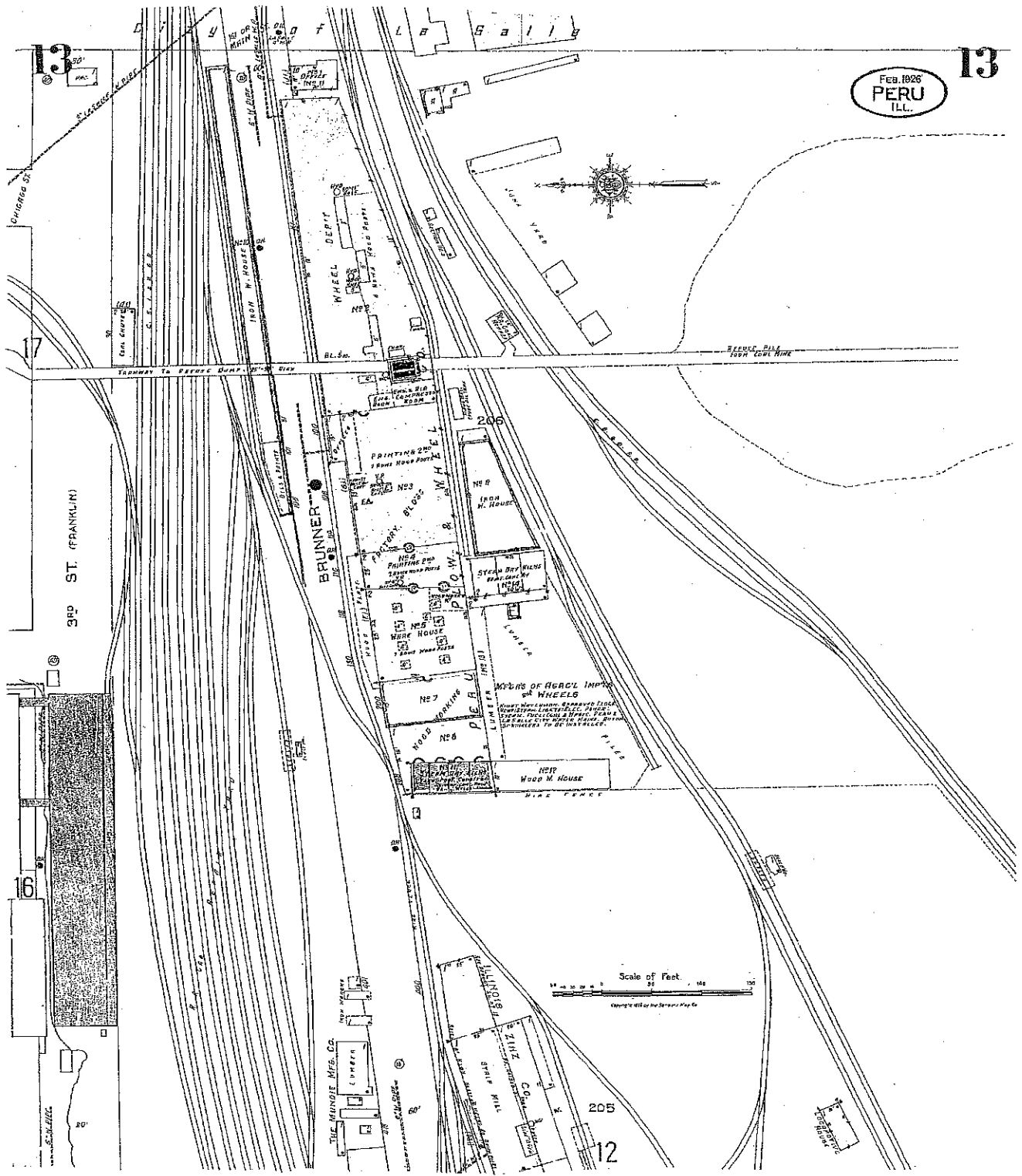
11

12



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13

13

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PRINTING

STEAM DR. MACHS

WOOD M. HOUSE

WOOD WORKING

WOOD HOUSE

WOOD HOUSE

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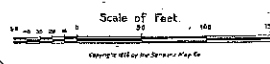
WOOD HOUSE

WOOD HOUSE

WOOD HOUSE

WOOD HOUSE

WOOD HOUSE



205

12

16

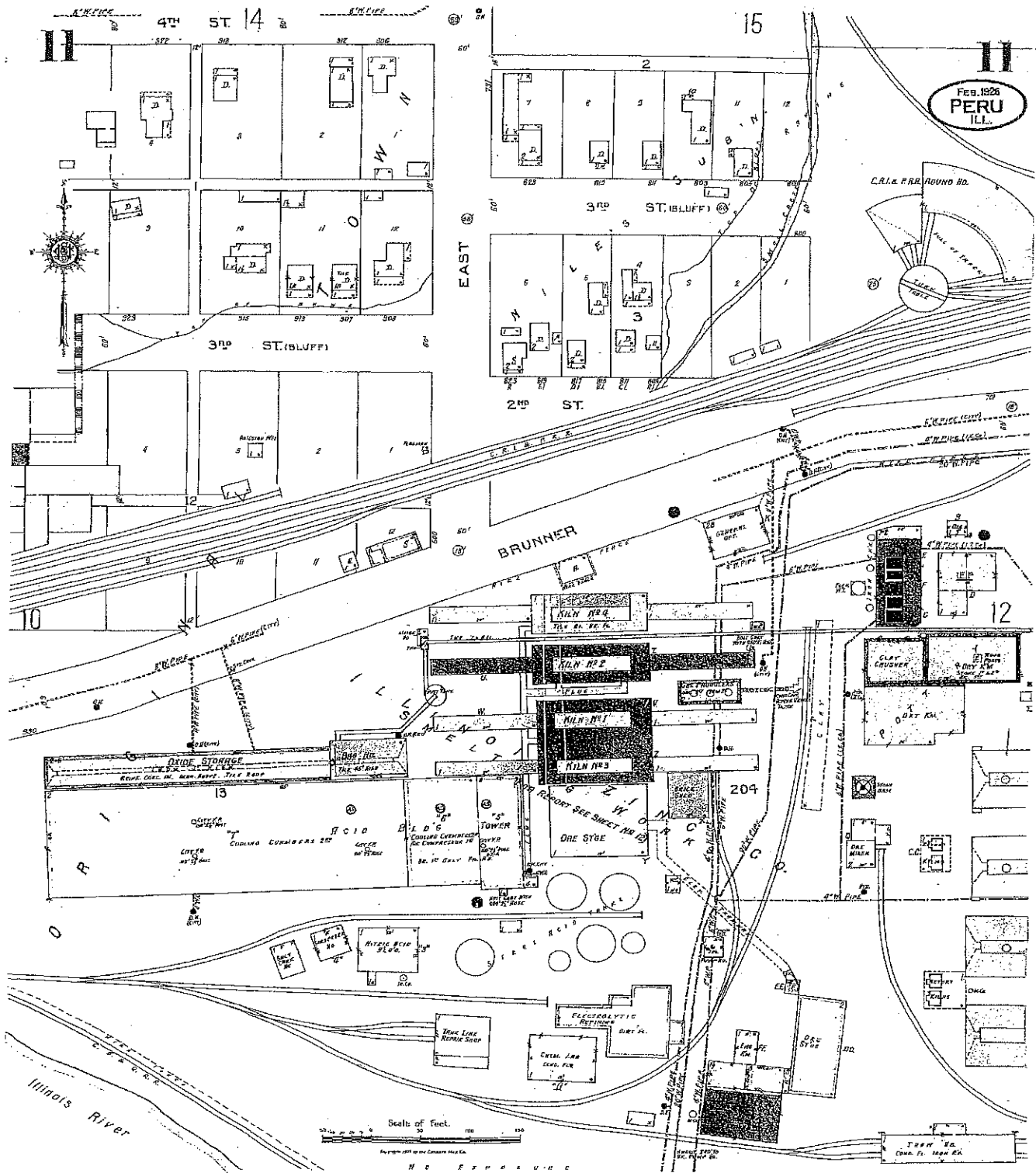
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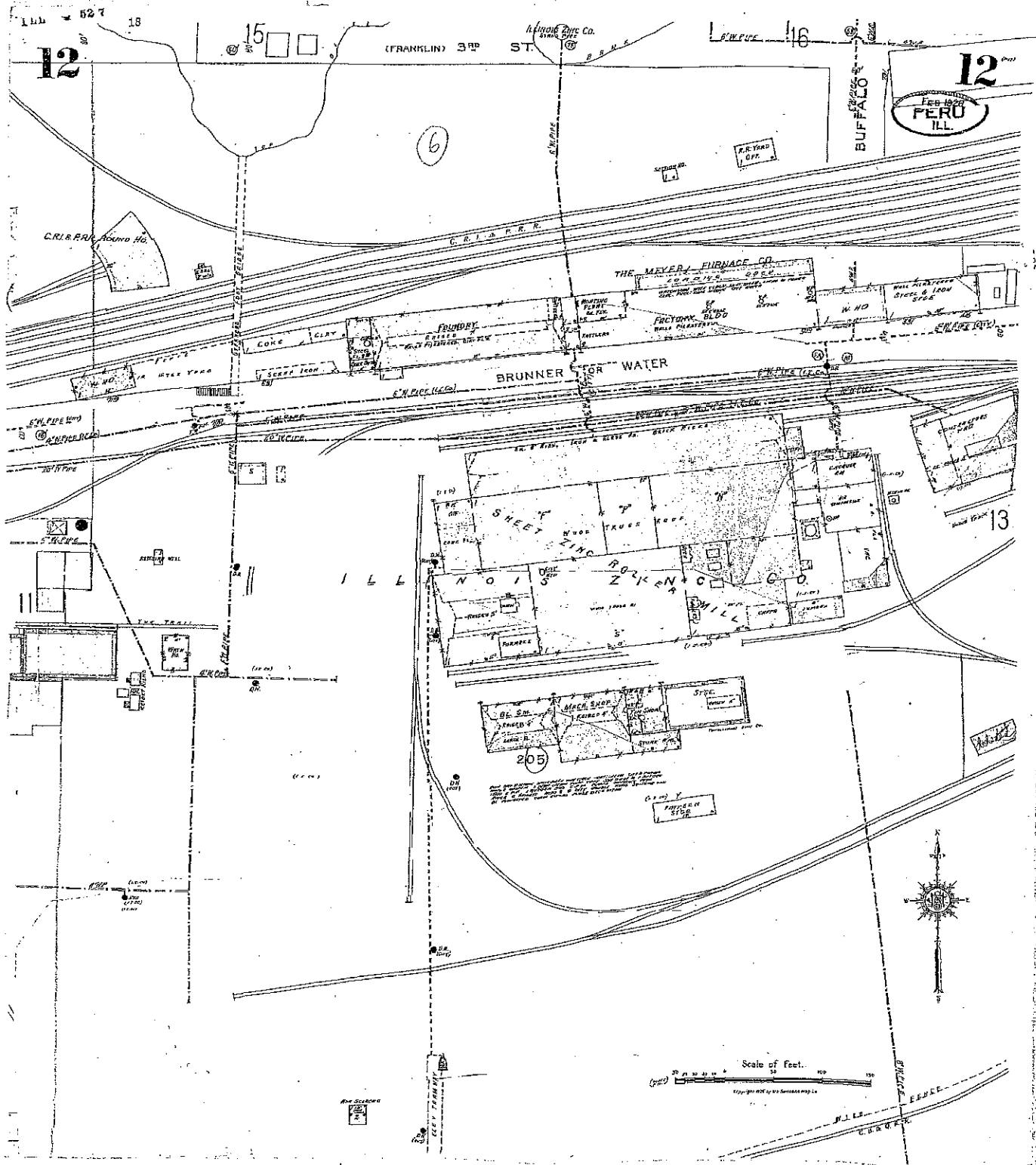
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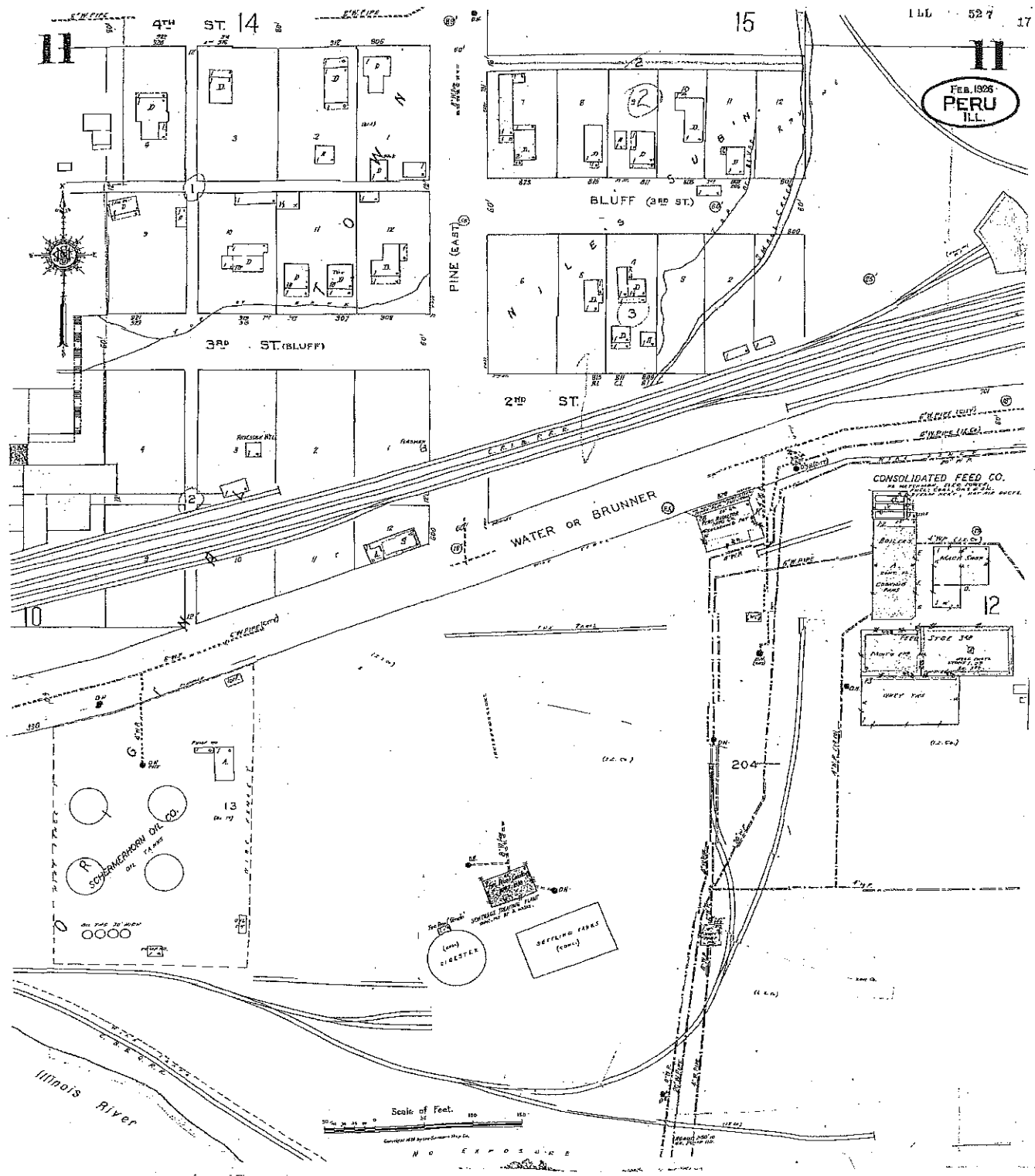




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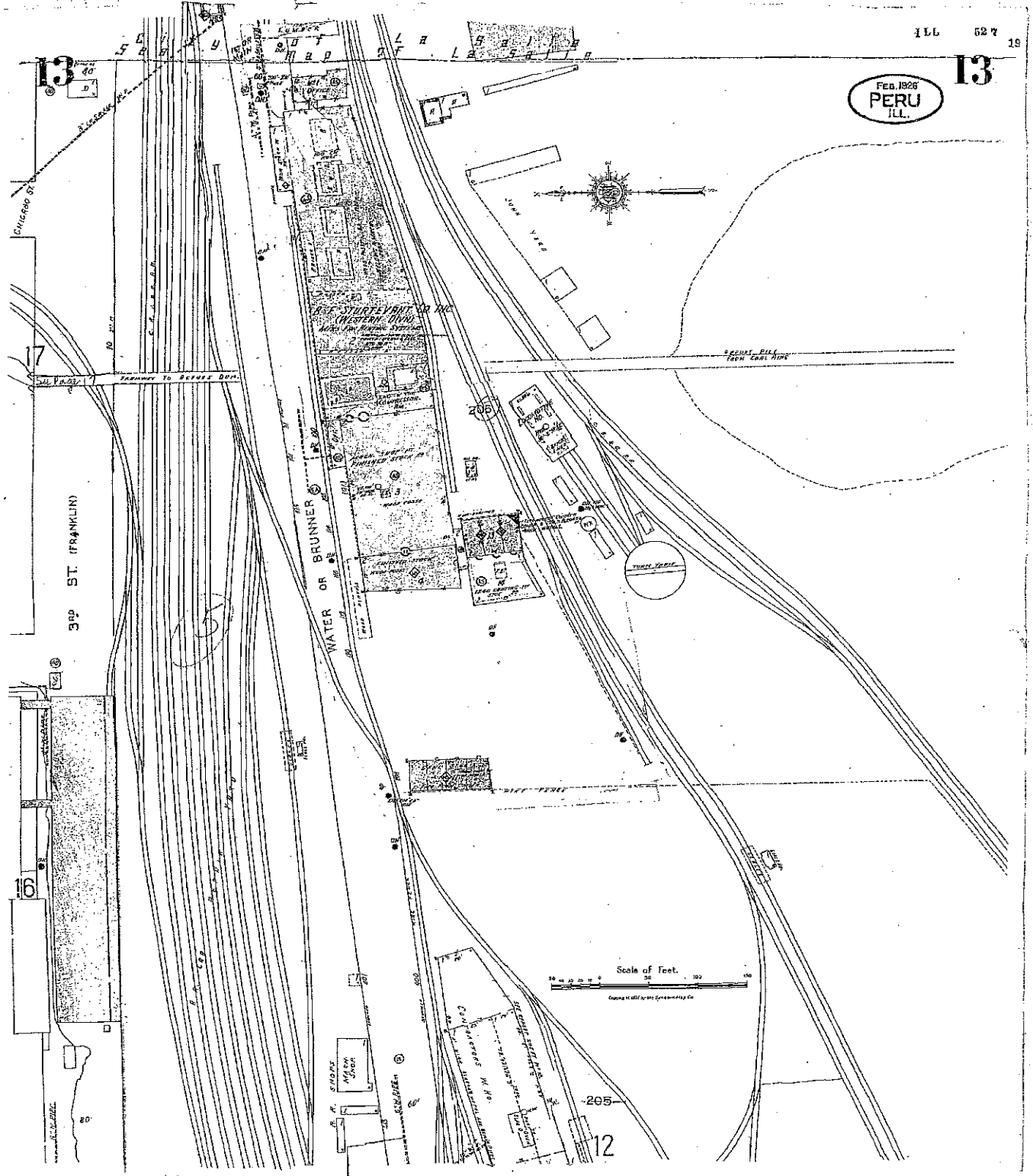
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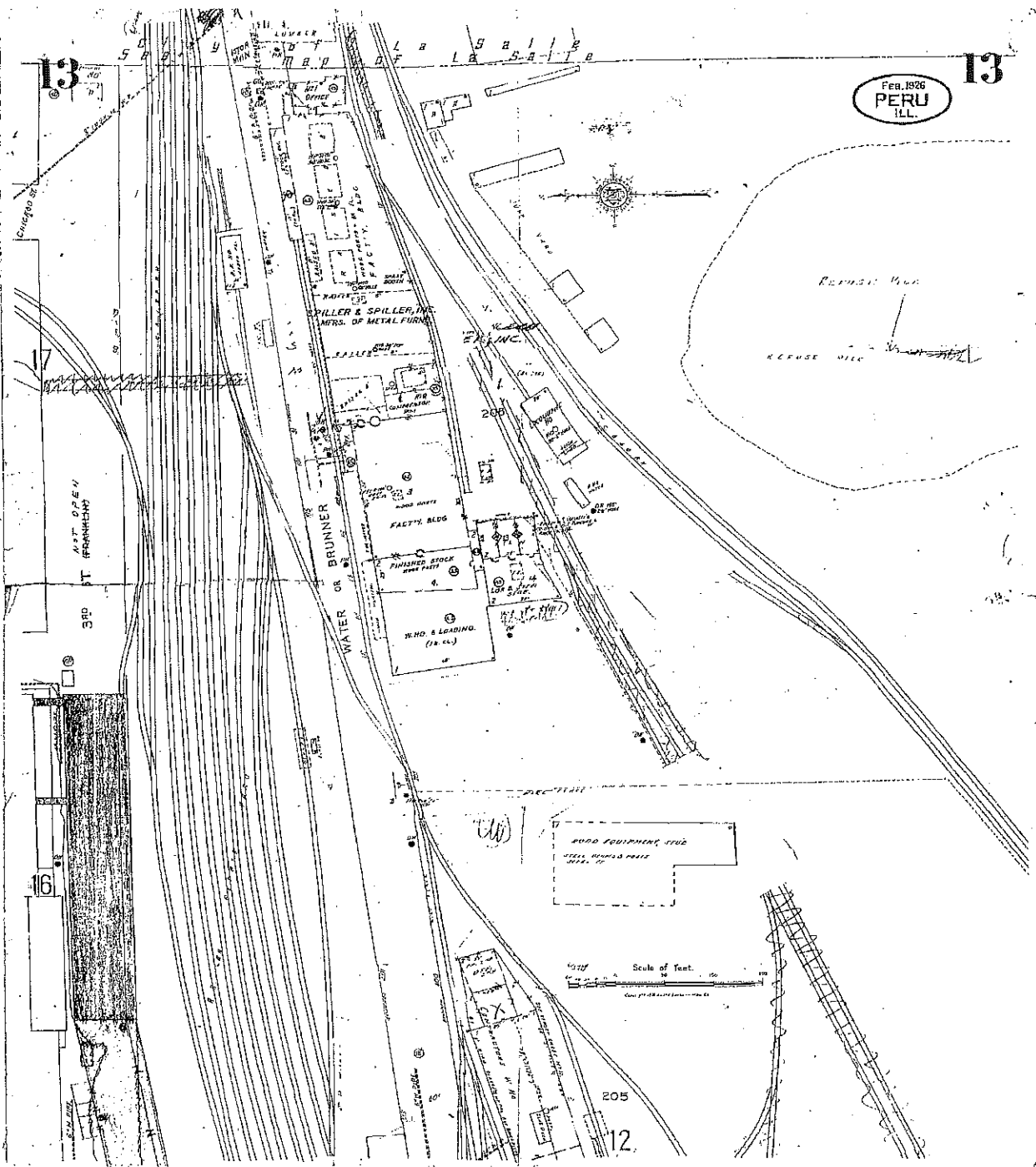
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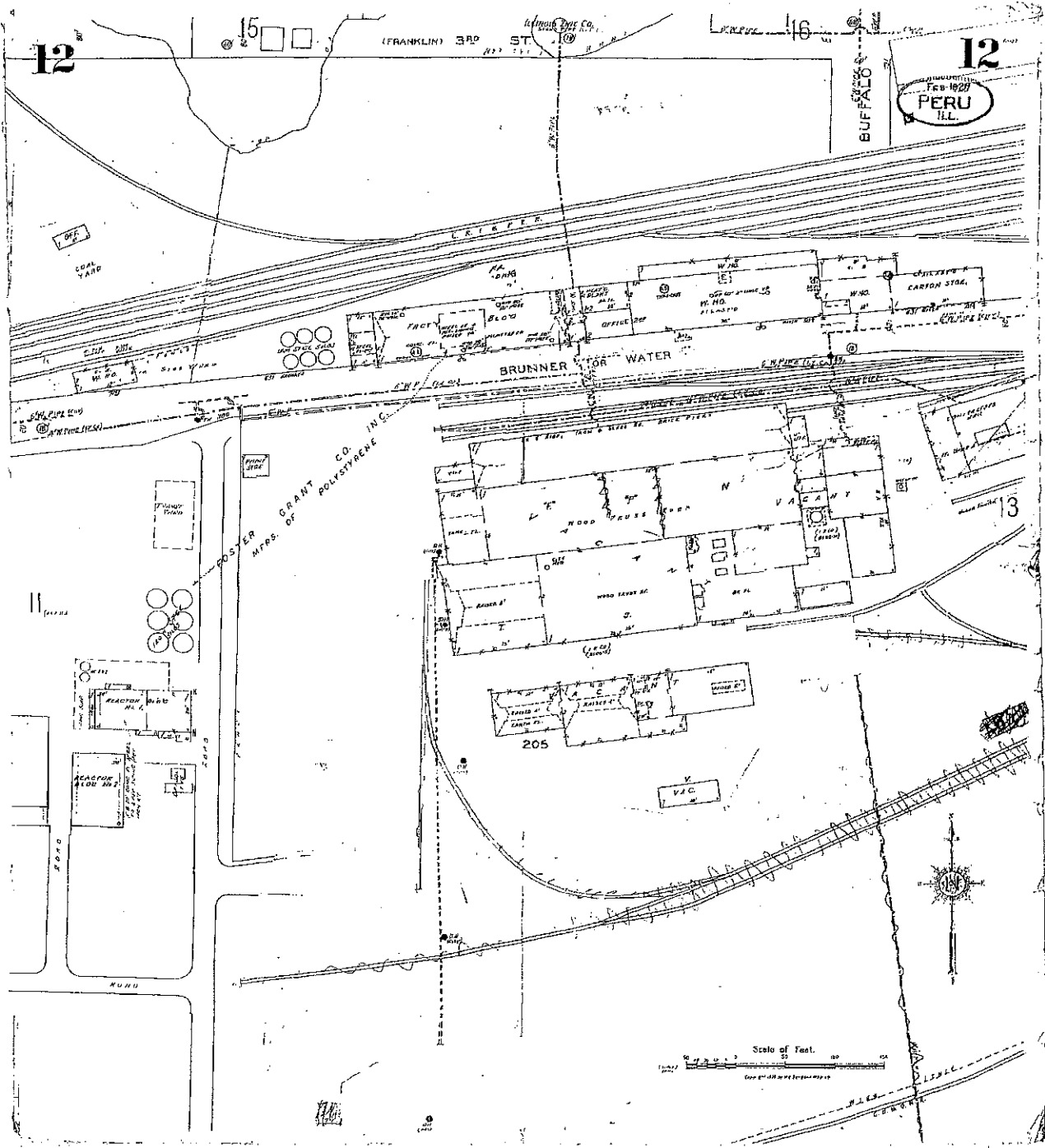




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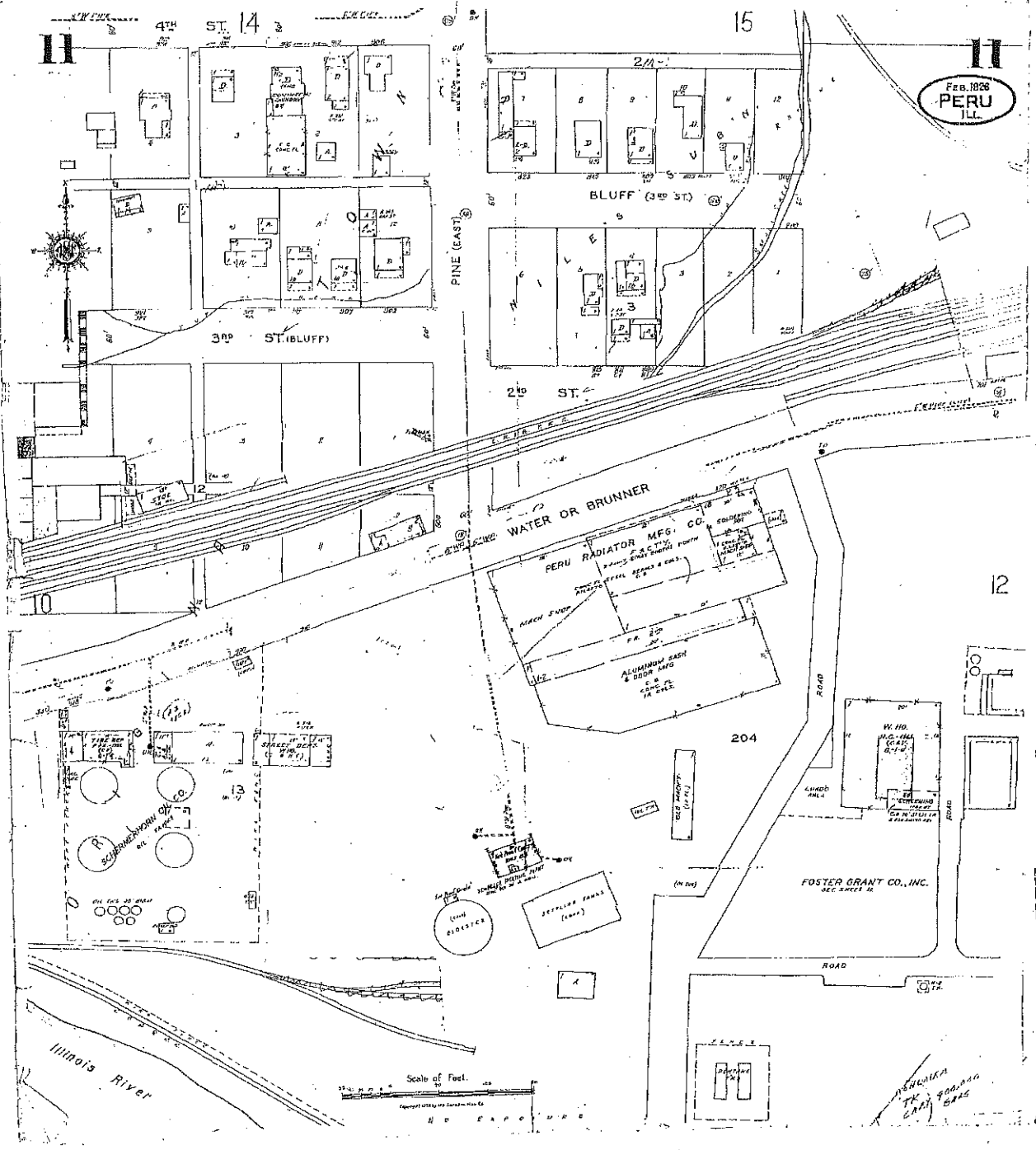




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Appendix C

November 2006
Project No. 0057138

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