PHASE I ENVIRONMENTAL ASSESSMENT

BUFFALO FORGE PLANT NO. 1
490 BROADWAY AVENUE
BUFFALO, NEW YORK

DAMES & MOORE

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
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1.0 INTRODUCTION

Dames & Moore was retained to perform a Phase I Environmental Site Assessment of the Buffalo Forge facility located at 490 Broadway Avenue in Buffalo, New York. This report is prepared in accordance with our approved proposal dated April 7, 1993.

2.0 PURPOSE

The objective of this assessment is to provide information about existing site conditions and operational practices and to review readily available data regarding past practices to identify potentially significant environmental concerns and liabilities which may affect the property value and/or future development at the site.

3.0 SCOPE

The scope of work involved for this evaluation includes:

- a review of the current and past uses of the property
- a review of any studies and/or data available on the site
- a site reconnaissance
- a review of regulatory agency records
- an evaluation of the potential impact of adjacent properties on the site
- an evaluation of past and present regulatory compliance

4.0 SITE DESCRIPTION

4.1 CURRENT LAND USE

Buffalo Forge's Plant No. 1 is located at 490 Broadway Avenue in Buffalo, New York. The property is approximately 10 acres and is bordered by Broadway Avenue to the south, Tousey and Spring Streets to the west, Sycamore Street to the north, and Mortimer Street to the east (see Figure 1). The Buffalo Forge building covers an area of approximately 400,000 square feet (see Figure 2).

4.2 SITE HISTORY

4.2.1 LAND USE

Aerial photographs, maintained by the Erie County Planning Department, were reviewed to provide information regarding past conditions at the site and neighboring properties which could be of environmental concern. The aerial photographs reviewed as part of this investigation are all of good visual clarity and are dated 1951, 1960, and 1972.

Polk cross-reference directories, available at the Erie County Public Library for intermittent years between 1941 and 1987, were also consulted to provide the names of past tenants of the site and neighboring properties.

Sanborn Fire Insurance Maps provide detailed information about the historical land uses, including not only the names businesses and industries, but also the presence of storage tanks and hazardous materials. Sanborn Maps of the site are available for the years 1889, 1899, 1926, 1950 and 1986.

The site history is based on a composite of information collected from the aerial photographs, Polk directories, and Sanborn Fire Insurance Maps, as well as conversations with Buffalo Forge personnel.

Buffalo Forge began operations at 490 Broadway Avenue in 1877. The neighborhood surrounding the site was well developed at that time. Land use was predominantly residential, however, there were a few commercial and industrial facilities which included a malt house and a distillery. A school was situated immediately west of the site on Broadway Avenue.

Few changes took place at and around the site through 1926: Buffalo Forge had expanded operations to occupy most of the block bordered by Spring Street, Sycamore Street, Mortimer Street and Broadway Avenue, including the area formerly used by the distillery. The malt house remained operational but the school was demolished leaving a vacant lot.

By 1950, no notable changes occurred at Buffalo Forge. Surrounding land uses of potential environmental concern included a gas station located at the corner of Spring and Sycamore Streets and "Beerstox" at 513 Spring Street. The gas station began operations around 1945, according to the City of Buffalo Fire Prevention Bureau, and was out of business by 1953, according to the Polk directory. Beerstox was a beer distribution company which had an associated underground storage tank. This business was operational from at least 1950 through 1965.

Buffalo Forge continued to grow as was indicated by the addition to their facility in 1966. This addition covered the area formerly occupied by the Beerstox company. Sometime between 1972 and 1986, Buffalo Forge added on to the building constructed in 1966 so that the facility eventually covered the area formerly occupied by the gas station.

According to the Polk directories, aerial photographs, and Buffalo Forge personnel, the malt house was demolished in the early 1970's and the area was incorporated by Buffalo Forge as a steel storage yard. The noticeable change in the surrounding land use in 1972 was a significant loss of residential units in the area, especially along Spring Street, west of the site.

By 1986, Buffalo Forge had once again expanded their facility to cover the area on the corner of Sycamore and Mortimer Streets. No expansions appear to have occurred between 1986 and the present.

4.2.2 SITE OPERATIONS

Buffalo Forge is currently a manufacturer of heavy duty industrial air moving equipment, such as fans, blowers, and cabinets. In the past, the facility also manufactured machine tools, including drill presses, bending rolls, and shears. Using basic steel products, Buffalo Forge shapes, forms, welds, machines and assembles the equipment, after which it is painted and shipped to the customer.

From about 1878 through 1986, Buffalo Forge also operated a foundry at their Buffalo facility in which they cast brass, cast iron, and aluminum.

4.3 SITE SETTING

4.3.1 PHYSIOGRAPHY AND REGIONAL GEOLOGY

The site is located on the Erie-Ontario Lowlands physiographic province. The topography of the lowlands is generally flat due to glaciation.

The Erie County Soil and Water Conservation District has identified the soil at the site as Urban Land. Urban Land is defined as "...a miscellaneous area in which 80 percent or more of the soil surface is covered by asphalt, concrete, buildings or other impervious structures."

4.3.2 LOCAL GEOLOGY

A foundation study was performed by the Buffalo Drilling Company on January 31, 1992, on the area currently used by Buffalo Forge as a steel storage yard. This storage yard is bound by the facility to the north and east, by the playground to the south, and by Spring Street to the west. According to the foundation study report, there were seven borings which ranged in depth from approximately ten to 26 feet below ground surface. A water level observation

well was installed in boring B-1. (Buffalo Forge personnel could not verify that the well was installed. An inspection of the area revealed a flush-mounted cap that could be the referenced well, however, Buffalo Forge personnel claim that this device is part of the plant's sprinkler system.)

According to the foundation study results, "in general, subsurface overburden conditions were found to consist of random fill underlain by naturally deposited layers of clay and glacial till. The random fill layer, extending to depths ranging between approximately four to six feet, was encountered beneath a thin asphalt surface at all boring locations. The fill material consists of a medium to very dense granular mixture of gravel, sand, concrete, brick and other rubble. It is noted that at some boring locations this granular material is underlain by cohesive soils consisting predominantly of stiff to very stiff clay and silt intermixed with little to trace amounts of sand.

Naturally deposited soils recovered directly below the fill unit consist of a very stiff to hard, moderately plastic clay layer up to three feet thick.

A stiff to hard glacial till layer was encountered below the clay extending to the bedrock surface. This soil consists predominantly of moderately plastic clay and silt intermixed with lesser amounts of sand or gravel.

Top of bedrock...is approximately 12 feet below existing ground surface. Bedrock generally consists of thin-bedded, slightly to moderately weathered, moderately hard to hard, limestone interbedded with chert from the Onondaga Limestone Formation."

4.3.3 HYDROLOGY

Groundwater flow in the regional area around the project site is influenced by the presence of Lake Erie. Lake Erie is situated approximately two miles to the north and west of the project site; therefore, regional groundwater likely flows to the west and northwest.

Perched groundwater conditions at the project site were documented by Buffalo Drilling Company in their foundation study report (1992). "Based upon water level readings taken from the observation well installed at boring location B-1, static groundwater level is estimated to be approximately four feet below existing ground surface."

5.0 AGENCY REVIEW

To identify any reported environmental problems at the site or neighboring properties which may potentially impact the site, Dames & Moore received information from the following pertinent federal, state and local agencies:

- U.S. Environmental Protection Agency
- New York State Department of Environmental Conservation

- Erie County Disaster Preparedness Commission
- Erie County Planning Department
- Erie County Health Department
- City of Buffalo Fire Prevention Bureau
- Buffalo Sewer Authority

Dames & Moore also requested and received a federal and state database search from Environmental Risk Information and Imaging Services (ERIIS). ERIIS compiles up-to-date information from federal and state agencies to identify known environmental problems within a one mile radius of the project site.

5.1 U.S. ENVIRONMENTAL PROTECTION AGENCY

5.1.1 NATIONAL PRIORITIES LIST

Sites included on the National Priorities List (NPL) are sites that are targeted by the USEPA for possible long-term remedial action under the Superfund Act. No NPL sites were identified within a one mile radius of the site.

5.1.2 COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY INFORMATION SYSTEMS LIST

The Comprehensive Environmental Response, Compensation, and Liability Information Systems (CERCLIS) list is a compilation of known and suspected uncontrolled or abandoned hazardous waste sites. These sites have been investigated or are currently under investigation by the USEPA for the release, or threatened release, of hazardous substances. Three sites, including Buffalo Forge, are identified as CERCLIS sites within a one mile search radius from the project site. The other two CERCLIS sites are Atlas Electroplating and Russo Chevrolet.

Buffalo Forge is listed as a CERCLIS site because of a suspect storage area for empty drums that contained solvents, paints and coatings. According to database information, a preliminary site assessment conducted on March 24, 1986 and a screening site inspection conducted on February 23, 1987, resulted in no further action at the site by the USEPA. Buffalo Forge personnel confirmed this information and explained that complaints about the drum storage area from residents living near the site had initiated USEPA's investigation, which included both Plant No. 1 (i.e., the project site) and Buffalo Forge's Plant No. 2 at 505 Duke Road. Buffalo Forge never received a copy of the site assessment report. Dames & Moore submitted a Freedom of Information Law (FOIL) request to the USEPA on September 25, 1992 to obtain a copy of this site inspection report, but we have not received the report to date. Based on recent conversations with the USEPA's Freedom of Information Officer, Ms. Wanda Vasquez, we expect to receive the report, in addition to all other information in USEPA files related to Buffalo Forge, by week ending 4/23/93. We will forward a copy of the report and other pertinent information as soon as it is received.

Atlas Electroplating is located at 345 Fillmore Avenue, approximately one mile southeast of the project site. Preliminary information obtained from the USEPA indicates that remediation was conducted at Atlas in 1989; no additional work appears to be scheduled for this site. At the time of this writing, no information is available regarding the source of contamination or the affected environmental media.

Russo Chevrolet is located approximately 0.7 miles southwest of the project site. No information concerning conditions at Russo Chevrolet is available at this time because the USEPA informed Dames & Moore that Russo Chevrolet is not in their records; however, they are looking into the matter. We will forward any noteworthy information as soon as it is received.

5.1.3 RESOURCE CONSERVATION AND RECOVERY ACT

USEPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. Sites listed in the RCRA database have become part of the RCRA program and have obtained a RCRA identification number to generate hazardous waste and/or obtained a permit to transport or treat, store and dispose of hazardous waste. Listed below are five sites, located within a ½-mile of the project site, which are identified as large quantity generators of hazardous waste. According to database information, all of these sites are in compliance with the appropriate RCRA regulations.

Buffalo Forge is listed as large quantity generator of hazardous waste. Buffalo Forge generates 40 Code of Federal Regulation (CFR) Part 261 characteristic hazardous waste D001, defined as ignitable waste, and listed wastes F003 and F005, defined as spent non-halogenated solvents. These wastes are the result of painting, paint cleaning and degreasing operations.

Metropolitan Wardrobe Service, Inc., located at 388 Broadway Avenue, is a generator of listed wastes F002 and U210. F002 is spent halogenated solvent and U210 is tetrachloroethylene originating from a commercial chemical product, manufacturing chemical intermediate, or off-specification commercial chemical product.

Carton-Craft Corporation is located at 115 Ash Street, approximately 0.4 miles northwest of the project site. Carton-Craft is a generator of listed wastes F001, F003, and F005. Listed waste F001 is defined by 40 CFR Part 261 as spent halogenated solvents used in degreasing operations.

Dual Pane Corporation, located at 646 Spring Street, approximately 0.4 miles northwest of the project site, is a generator of listed waste F002.

Sunoco Service Station is identified as a generator of characteristic hazardous waste D001. Sunoco is located at 605-615 Genesee Street, approximately 0.4 miles northeast of the project site.

Three small quantity generators of hazardous waste located within ½-mile of the project site are Crosby Company, Mohawk Truck Rental, and Mobil Oil Service Station E48. Crosby Company and Mohawk Truck Rental are located at 183 Pratt Street and 220 Broadway Avenue, which are approximately 0.2 miles and 0.5 southwest of the project site, respectively. Crosby generated PCB-contaminated waste and Mohawk Truck Rental generates characteristic D001 waste and listed F002 waste. The Mobil Oil Service Station was located approximately 0.1 miles northeast of the site at the corner of Broadway Avenue and Jefferson Street. Mobil generated characteristic hazardous wastes D001 and D018; D018 is a toxic waste due to the levels of benzene.

5.2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

5.2.1 INACTIVE HAZARDOUS WASTE DISPOSAL SITES

The New York State Department of Environmental Conservation's (NYSDEC) Inactive Hazardous Waste Disposal Sites Registry contains the names of those sites that are actually or considered to be potentially contaminated and present a threat to human health and the environment. There are no New York State Registry sites within a one-mile radius of the project site.

5.2.2 BULK STORAGE TANKS

Based on ERIIS database information, Buffalo Forge, plus seven additional facilities within ½-mile of the project site, have active petroleum bulk storage tanks registered with NYSDEC. Each facility name and address, the number and total capacity of their tanks, and the distance to and direction from the project site are as follows:

- Buffalo Forge
  One, 20,000 gallons
- Buffalo Academy
  333 Clinton Street
  One, 20,000 gallons
  0.5 miles southwest
- Public School #31
  212 Stanton Street
  One, 15,000 gallons
  0.5 miles southeast
- Public School #12
  33 Ash Street
  One, 9,000 gallons
  0.4 miles southwest

- Buffalo Streets Garage
  197 Broadway Avenue
  Two, 25,000 gallons
  0.5 miles, southwest

- NYSDOT
  425 Oak Street
  Two, 6,500 gallons
  0.5 miles northwest

- Roswell Park
  666 Elm Street
  Twelve, 116,270 gallons
  0.5 miles northwest

- GA Kaysor & Sons, Inc.
  327 Elm Street
  One, 2,000 gallon
  0.5 miles northwest

According to NYSDEC Petroleum Bulk Storage Division records, Buffalo Forge has one active 20,000-gallon UST on-site that was due to be tightness-tested in December 1992. In addition, a 2,000-gallon gasoline tank, installed in January 1980, was removed in September 1990. This 2,000-gallon was located in the Sycamore Street yard.

5.2.3 LEAKING UNDERGROUND STORAGE TANK LIST

According to ERIIS' Leaking Underground Storage Tank (UST) list, there were eight reported leaking USTs within ½-mile of the project site. Each facility name and address, the distance to and direction from the project site, the date of the reported leak and the date of case closure, and a brief description of the leak are as follows:

- Mobil Oil Service Station 08-NDX
  543 Broadway Avenue
  0.1 mile northeast
  9/16/90; none given
  Oil product found in monitoring well at abandoned gas station

- Melvin Smoot Tank
  301 Hickory Street
  0.2 miles southwest
  7/14/89; 10/22/90
  Abandoned 1,000-gallon UST found

- Pleasant Grove Baptist Church
  222 Cedar Street
  0.4 miles southwest
  9/20/90; 9/27/91
  UST leaking into the sewer

- Abandoned Gas Station
  corner of Genesee and Jefferson Streets
  0.5 miles northeast
  8/22/91; none given
  no description available

- Roswell Park
  666 Elm Street
  0.5 miles northwest
  9/7/89; 11/22/89
  1,000-gallon UST took on water and failed air pressure test

- Greyhound
  200 Broadway Avenue
  0.5 miles southwest
  7/3/86; none given
  400 gallons of #2 fuel spilled

- Buffalo Streets Garage
  197 Broadway Avenue
  0.5 miles southwest
  12/16/91; 2/25/92
  no description given

- Public School #47
  Pratt near Genesee
  0.4 miles northwest
  12/21/89; 8/23/90
  City of Buffalo found old heating oil tanks when demolishing school

A FOIL request has been submitted to NYSDEC. Any noteworthy information will be forwarded as soon as it is received.

5.2.4 REPORTED SPILLS

Six spills within ¼-mile of the project site were listed on the ERIIS spill report.

Three of the reported spills occurred at Buffalo Forge, two in 1987 and one in 1989. On June 4, 1987, a truck driver reportedly hit a 20-gallon drum of product. On December 12, 1987, a spill occurred when facility personnel were filling the 20,000-gallon UST with water; petroleum product was unexpectedly in the tank which caused the water to overflow. According to Buffalo Forge personnel, the spill was contained with no adverse impact to the environment. On July 23, 1989, the facility had problems with an oxygen tank. The fire department arrived to cool the tank with water.

Two spills were reported at Home Development Systems at 301 Hickory Street, approximately 0.2 miles southwest of the project site. In 1989 and 1990, tar from a tank that was being cut open spilled onto the ground.

One spill was reported at Angert's Auto Parts at 650 Broadway Avenue, approximately 0.3 miles northeast of the project site. In 1990, a fire exposed drums containing a green liquid (possibly ethylene glycol). According to the report, the only environmental media affected was land.

All of the reported spills have a spill closure date. According to NYSDEC, in general, a reported spill is considered closed when the department personnel are satisfied that the affected spill area has been cleaned to meet their criteria. However, NYSDEC will not guarantee that the spills have not affected or will not continue to affect off-site properties. The only means, therefore, to determine the potential impact of the spills appears to be a consideration of the distance of the spill from the project site and the reported environmental media affected. For all of the spills reported for this investigation, the only affected environmental media was land (and air, in the case of the Buffalo Forge oxygen tank). Therefore, it seems reasonable to conclude that the reported spills have not had or will not have an impact on the project site.

A FOIL request has been submitted to NYSDEC for information pertaining to spills in the vicinity of the project site. Any noteworthy information will be forwarded as soon as it is received.

5.3 REGIONAL AND MUNICIPAL AGENCIES

5.3.1 ERIE COUNTY PLANNING DEPARTMENT

Dames & Moore visited the Erie County Planning Department to view historical aerial photographs. Section 4.2, "Site History," presents the information noted on the photographs.

5.3.2 CITY OF BUFFALO PUBLIC WORKS DEPARTMENT

According to the City of Buffalo Department of Public Works, there are no known drinking water wells in the City of Buffalo.

5.3.3 CITY OF BUFFALO FIRE PREVENTION BUREAU

The Fire Prevention Bureau maintains records of UST installations and removals dating back to the turn of the century, so they were contacted for information regarding the USTs at the site and those noted on the 1950 Sanborn Map, at 513 Spring Street and at the former gas station located at the corner of Sycamore and Spring Streets.

The Fire Prevention Bureau provided Dames & Moore with a document that states that a 2,000-gallon gasoline UST was installed at the site in 1980 in the Sycamore Street yard. The Fire Prevention Bureau had no record of any UST closures at the site; however, as previously stated, NYSDEC Petroleum Bulk Storage Division has information on file that indicates that the 2,000-gallon UST was removed in 1990 (see Section 5.2.2).

As explained in Section 4.2, there was an UST at 513 Spring Street that appeared to be associated with the Beerstox Company. Three USTs were installed in 1945 at the former gas station: one 550-gallon tank and two 1,000-gallon tanks. These USTs are of concern because the Buffalo Forge facility now extends over these areas.

According to Fire Prevention Bureau records, the UST at 513 Spring Street was removed in 1964, but there is no record of the gas station's USTs being removed or officially closed (e.g., filled with a concrete slurry). Dames & Moore questioned Buffalo Forge personnel about this situation, but they were also unable to provide any documentation regarding the removal of these USTs. Due to a lack of evidence to prove otherwise, it has to be assumed that the three USTs formerly used by the gas station are still in place and are currently covered over by a concrete foundation in the northwestern portion of the Buffalo Forge facility.

5.3.4 BUFFALO SEWER AUTHORITY

The Buffalo Sewer Authority informed Dames & Moore that 95% of the city is serviced by a combined sewer system, of which the project site is included. Therefore, the floor drains inside the facility, the drain in the hazardous waste storage area, and all other drains at the site discharge into a combined sewer system.

6.0 SITE RECONNAISSANCE

On April 11, 1993, Mr. Robert Adare of Buffalo Forge, provided a guided tour of the entire project site and made all environmental-related files available for review for Dames & Moore representatives, Jane Staten and Jennifer Paul. Photographs of the site taken during the site reconnaissance are included in Attachment A.

Dames & Moore returned to the site on April 13, 1993, for a closer inspection of specific areas of the facility. Mr. Robert Gullekson, Mr. Harold Thomas, and Mr. Herb Hogue, all of Buffalo Forge, were available to answer questions.

6.1 SITE INSPECTION

The Buffalo Forge facility is composed of several attached buildings that have a varying number of levels. For example, the office areas are located in buildings that front Broadway Avenue; one side of the building is five-stories, the other side of the building is six-stories,

and the two are connected by a two-story building. The main work area is also a two-story structure (in limited areas); the second floor is currently used primarily for parts storage. In the past, this was the area where machine tools were produced.

An area in the southwestern portion of the facility is used as a steel storage yard. There is also a courtyard along Sycamore Street that is used for hazardous waste storage. East of the site, across Mortimer Street, are employee parking lots.

Several operations were observed during the site walkovers, including welding, spray painting, and a variety of metal working activities. There is also an operational cyclone that uses a non-ferrous abrasive cleaner to clean metal products.

The floors where welding and metal working take place are either constructed of concrete or wooden blocks. According to Buffalo Forge personnel, the majority of the wooden block work areas are also underlain by concrete; however, there may be some areas in which the blocks rest on a sand foundation. These areas are susceptible to "buckling" which occurs when the wooden blocks become saturated. (When a floor buckles, it can actually rise about four feet into the air.) Most of the wooden blocks in the work areas showed signs of oil staining which is not unexpected in consideration of the nature of operations at the facility.

Floor drains were noted throughout the facility. These drains are connected to the City of Buffalo combined sewer system.

6.2 SURROUNDING LAND USE

Land use surrounding the facility is predominantly residential. A Niagara Mohawk substation is located to the west on Spring Street. There are a few other industrial facilities in the area, as well as some commercial operations, including Ernst Printing and Drescher Paper Box, Inc. across the street on Broadway Avenue and a corner market at Sycamore and Mortimer Streets.

The surrounding land use of most concern are abandoned gas stations approximately 0.1 miles east of the project site, at the corner of Broadway Avenue and Jefferson Street.

6.3 POLYCHLORINATED BIPHENYLS

Polychlorinated biphenyls (PCBs) are known to be contained in some of the capacitors, which are currently in use, located in an area of the facility called the power house. The power house has a concrete floor; no floor drains were noted. The capacitors sit in a metal containment; some staining was observed in the containment around the capacitors.

6.4 ASBESTOS

The facility has an active asbestos abatement program which they are implementing internally. Buffalo Forge personnel estimate that approximately 60% of the asbestos present at the plant has already been encapsulated. Most of the asbestos that has been encapsulated is pipe insulation.

Dames & Moore noted some potential asbestos-containing material (ACM) which included the ceiling and floor tiles located throughout the cafeteria and office areas.

6.5 HAZARDOUS MATERIALS

Hazardous materials at the facility include primarily paints, solvents, and cutting oils. The paints and solvents are stored together in a dedicated storage room. This room has a concrete floor and a floor drain which is presumably connected to the storm sewer system.

The cutting oils are stored on a wooden block floor in an area located in the northeastern part of the facility. The floor appeared dark, likely due to staining.

6.6 SOLID WASTE

Solid waste generated by the facility includes scrap metal, wood dust, and spent metal cleaner abrasive, in addition to general office waste. The scrap metal is stored in a roll-off located in the courtyard along Sycamore Street. The wood dust is collected in 55-gallon drums and disposed of in an industrial landfill. The non-ferrous abrasive cleaner is non-hazardous and is also disposed of at an industrial landfill.

6.7 HAZARDOUS WASTE

Buffalo Forge generates primarily three types of hazardous waste: ignitable paint sludge, waste from paint-related cleaning operations, and ignitable petroleum naphtha waste from degreasing operations. These wastes are defined by 40 CFR Part 261 as characteristic waste D001 and listed wastes F003 and F005.

The main hazardous waste storage area is located in the courtyard, along the Sycamore Street side, or northern end, of the facility. There is a small shed, enclosed on three sides and equipped with a bermed floor, which is intended for the storage of hazardous waste; however, at the time of the site visits, 55-gallon drums of waste covered an area that was beyond the capacity of the shed. The drums of waste were therefore sitting on unprotected ground, exposed to the elements.

Stains were observed on the ground in this area, however, the large volume of drums (approximately 40) limited access and it was impossible to inspect the entire area. A storm sewer inlet is located in the courtyard, downgradient from the area where the drums of waste are stored. If a spill occurred, it is possible that waste material could flow into the storm sewer system.

It was also noted that some of the drums of waste are not labeled with the name of the type of waste and the date of accumulation. On one drum that was labeled, the date of accumulation was listed as 11/20/92. This indicates that the waste has been on-site beyond the allowable 90 days.

6.8 UNDERGROUND STORAGE TANKS

There are three known USTs located on the project site: one 20,000-gallon tank that is not registered with NYSDEC and two other tanks of unknown capacity. The 20,000-gallon tank is filled with water and has been out-of-service since about 1986. The other two tanks are filled with concrete, according to Buffalo Forge personnel. A 2,000-gallon gasoline UST, located in the Sycamore Street yard, was removed in 1990, according to NYSDEC records. As stated in Section 5.3.3, there are no records on file at the City of Buffalo Fire Prevention Bureau that document the removal or closure of USTs at the site.

As previously explained, no records that document the removal or closure of the USTs associated with the former gas station at the corner of Sycamore and Spring Streets could be found. This area is now covered by a concrete foundation which is part of the Buffalo Forge facility.

7.0 REGULATORY COMPLIANCE

7.1 AIR EMISSIONS

Six paint spray booths are operational at the facility. These emission sources are permitted by NYSDEC. According to the permits, all of the spray booths were inspected by a NYSDEC representative on March 25, 1992, and all are operating satisfactorily. All of the paint spray booth permits expire on May 1, 1997.

Other air emission sources at the facility include a Cyclone (non-ferrous abrasive metal cleaner) and a wood dust collector. The baghouse used to collect the wood dust is located in the steel scrap yard. The cyclone collector is located inside the facility.

According to Buffalo Forge personnel, welding fans that emit fumes to the outside will soon be installed. These fans may require a permit pursuant to Title 6 New York Code of Rules and Regulations (6 NYCRR) Part 201.5.

7.2 HAZARDOUS WASTE

Buffalo Forge is identified as a large quantity generator of RCRA hazardous waste. As such, they are subject to regulations promulgated by 6 NYCRR Part 372.2. Dames & Moore noted a few areas of noncompliance with these regulations: all are related to storage and proper container labeling.

Hazardous wastes are stored in the courtyard area located along the Sycamore Street side or northern end of the facility. As previously described in Section 6.7, 55-gallon drums of waste are stored outside on unprotected ground. According to 6 NYCRR Part 372.2(a)(8), the drums should be placed in a sheltered and bermed containment area to prevent spillage, seepage, or other discharges of hazardous waste to the ground or storm sewers.

The drums of waste should be labeled in accordance with 6 NYCRR Part 372.2(a)(5) and (8). Most of the drums are not labeled. One of the drums that is labeled indicates that the drum has been stored on-site beyond the allowable 90 days, a violation of 6 NYCRR Part 372.2(a)(8).

Dames & Moore reviewed Buffalo Forge Annual Hazardous Waste Summary Reports for the years 1980 through 1992 and assembled a list of Treatment, Storage and Disposal (TSD) facilities used by the company for the disposal of their hazardous wastes. After the TSD list was assembled, we contacted the regional USEPA office or state agency that maintains regulatory status records for each TSD facility. Below is the name and location of each TSD facility and a few notes from our conversations with the applicable regulatory agency:

- General Electric
  Tonawanda, New York
  Permitted to handle PCBs and re-build PCB equipment; are in interim status and are expecting a HSWA permit

- Frontier Chemical Waste Process
  Niagara Falls, New York
  NYSDEC is in the process of revoking their permit; USEPA is conducting an inventory of their waste and assembling a PRP list

- Resolve Manufacturing
  Falconer, New York
  No longer a TSD because they had their permit revoked in 1987; remediation has taken place at the site

- Envirotek
  Tonawanda, New York
  USEPA is lead agency for this site; there is reported to be a "toxic lake" under the site and approximately 600 55-gallon drums; the owners are also in trouble for bankruptcy fraud and tax fraud

- Marine Shale Processors
  Morgan City, Louisiana
  This facility has received many notices of violation, many of which are in litigation

- ENSCO
  Eldorado, Arkansas
  The facility has been issued numerous administrative orders and enforcement actions with which they have complied; the facility is in the process of complying with the latest enforcement action

- Essex Waste Management
  Kingsville, Missouri
  The facility has had two inspections in the last six months; latest was in January 1993 for which a letter of warning was issued; some of the problems noted included open waste containers, poor condition of containers and inadequate spill control equipment

- Tipton Environmental Technology
  Tipton, Missouri
  Permitted to receive PCB waste only; no other information available

- Petro-Chem Processing
  Detroit, Michigan
  They do not have a permit yet and are currently in interim status; no problems noted at this facility

- Michigan Disposal, Inc.
  Belleville, Michigan
  No problems on file for this facility

- Aptus
  Coffeyville, Kansas
  This facility is in good regulatory standing

- Safety-Kleen
  Lackawanna, New York
  This facility is in good regulatory standing

- Chem-Tron Corporation
  Avon, Ohio
  Good regulatory standing; they do not have a permit yet and are currently in interim status

Based on inquiries with the regulatory agencies, it appears that there are four facilities that currently present potential liability. They include Frontier Chemical Waste Process, Resolve Manufacturing, Envirotek and Marine Shale Processors.

7.3 WASTE WATER

There are several floor drains throughout the facility that are connected to the City of Buffalo combined sewer system. Dames & Moore reviewed correspondence between Buffalo Forge and the Buffalo Sewer Authority (BSA). The BSA is the local authority in charge of discharges into the city's sanitary system. In a letter from BSA dated May 3, 1991, the BSA writes that "the BSA has determined that it will not be necessary to issue a new Buffalo Pollution Discharge Elimination System (B.P.D.E.S.) permit. This determination that you (Buffalo Forge) will not be considered a Significant Industrial User was based on a review of both your self-monitoring and BSA monitoring results, and inspections of your facility by our offices." The self-monitoring referred to by BSA was a actually a study conducted by URS Consultants in March 1991. URS collected samples from each of two main discharge lines: a manhole in the steel scrapyard and a manhole on Mortimer Street. Based on the sample analysis results, URS concluded that Buffalo Forge is currently in compliance with the applicable BSA discharge limitations. According to Buffalo Forge personnel, BSA conducts monitoring at their facility on a random basis.

One floor drain of particular concern is the drain in the paint/solvent storage area. It is recommended that this drain be plugged to prevent toxic material from entering the sewer system.

7.4 STORM WATER RUNOFF

It appears that Buffalo Forge does not require a National Pollution Discharge Elimination Permit (NPDES) for the discharge of storm water. The facility is exempt from the permitting requirements because the City of Buffalo is serviced by a combined sewer system.

7.5 UST

The 20,000-gallon UST on-site should be removed or closed pursuant to 6 NYCRR Part 613. This tank is registered with NYSDEC; however, the registration expires on June 28, 1993. If the tank is no longer in service, Buffalo Forge should remove or close it properly pursuant to 6 NYCRR Part 613.9 which requires that a permanently out-of-service tank be filled with a solid inert material such as sand or concrete slurry.

7.6 SARA TITLE III - EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW

Dames & Moore contacted the Erie County Disaster Preparedness Commission and NYSDEC Albany for information pertaining to Buffalo Forge's reporting as required by SARA Title III, Emergency Planning and Community Right-to-Know regulations. According to the agencies' records, Buffalo Forge did not report for 1987, 1988, and 1989. Buffalo Forge reported under Sections 311, 312, and 313 for 1990 and 1991. Buffalo Forge also submitted a letter to the agencies for 1992 stating that the facility was below reportable quantities and therefore was not subject to reporting for Section 312 during 1992. Section 313 forms (or toxic release inventory) are not due until July 1, 1993.

Based on this information, it appears that Buffalo Forge was negligent in not reporting under Community Right-to-Know for the years 1987, 1988, and 1989. It may be prudent to file the necessary information so that the facility is in full compliance with these regulations.

7.7 CERCLA

A review of Buffalo Forge records indicates that the facility may be or may have been implicated as a Potentially Responsible Party (PRP) due to the past disposal of hazardous waste. Listed below are the CERCLA sites for which Buffalo Forge may share some financial responsibility for clean-up costs:

- Pfohl Brothers Landfill
  Cheektowaga, New York
- Tift Dump
  Buffalo, New York
- Envirotek
  Tonawanda, New York
- LaSalle Reservoir
  Buffalo, New York
- Wide Beach
  Brant, New York
- Chem-Trol
  Blasdell, New York
- Bern Metal/Universal Metal
  Buffalo, New York
- Resolve Mfg
  Falconer, New York

Dames & Moore contacted NYSDEC for information regarding Buffalo Forge's involvement in these eight CERCLA cases.

According to Ms. Sheryl Peterson, Buffalo Forge has been sent a "Notice Letter" for Pfohl Bros. Landfill; however, according to NYSDEC, they have refused to "participate." (Once a facility has received a Notice Letter, they are considered a PRP, according to Ms. Peterson.) Ms. Peterson also indicated that Buffalo Forge has not received a Notice Letter for the Chem-Trol site.

Ms. Maura Desmond handles the Alltift and Bern Metal sites and provided the following information. Buffalo Forge was sent an information request for both Alltift and Bern Metal, to which they have responded; they have not been sent a Notice Letter.

In our opinion, the extent of Buffalo Forge's liability regarding these CERCLA cases needs further investigation from a legal standpoint.

8.0 CONCLUSIONS AND RECOMMENDATIONS

Several issues of concern have been identified based on information obtained during this Phase I Environmental Site Assessment. These issues are discussed in more detail below.

- Past hazardous waste disposal may be a liability because several of the TSD facilities that may have received Buffalo Forge waste are currently CERCLA sites. In one case, Pfohl Brothers Landfill, Dames & Moore was informed by the Legal Affairs Division of NYSDEC that Buffalo Forge has received a Notice Letter which, according to the NYSDEC representative, essentially means that the facility is considered a PRP. The NYSDEC representative also stated that Buffalo Forge has refused to participate in the case. The extent of Buffalo Forge's liability regarding the CERCLA cases needs further investigation.

- Violations of RCRA regulations were observed by Dames & Moore at the time of the site visit. One notable problem is the management of the facility's hazardous waste. The waste is improperly stored and labelled. Furthermore, if a spill occurred, there is the potential that the waste could enter the storm sewer system due to the presence of a storm sewer inlet in the storage area. Hazardous waste storage should be moved inside the facility. In addition, all waste drums should be clearly labelled and a strict inventory control program should be implemented to ensure that the 90 day storage period is not violated. These issues could be addressed by mostly administrative measures.

- The floor drain in the paint/solvent storage area should be plugged to prevent an accidental release of these toxic substances from entering the sewer system.

- According to agency records, Buffalo Forge did not report pursuant to the Community Right-to-Know regulations for 1987 through 1989. This information is public record, and community organizations have been known to target industries, creating public relations and other problems. Buffalo Forge should rectify this situation and submit the appropriate forms (or a letter stating that their hazardous material storage and usage and their toxic emissions were below reporting thresholds). Again this would involve primarily administrative actions.

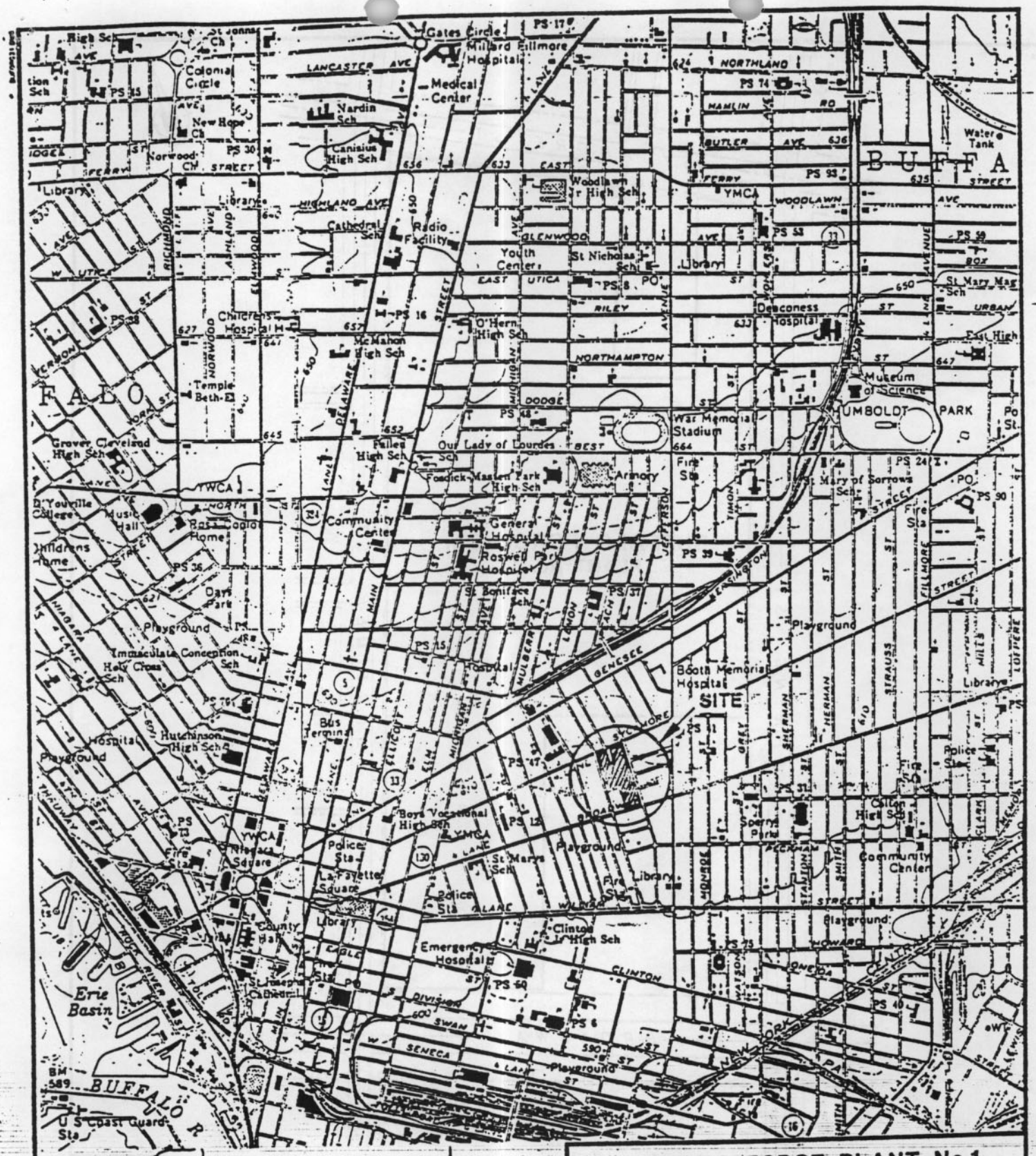
- The 20,000-gallon UST that is currently filled with water should be removed or officially closed pursuant to 6 NYCRR Part 613.9. Two other USTs on-site have already been filled with concrete.

- No records could be found that document the removal or closure of the USTs associated with the former gas station located at Sycamore and Spring Streets (which operated sometime between 1945 and 1953). This area is now covered by Buffalo Forge's building. Dames & Moore would typically recommend a Phase II to determine if the USTs are still in place and if so, to determine if they have leaked; however, it would be very costly to core through the concrete foundation that now covers the area of concern. It appears that the most reasonable option is to accept the potential liability. In consideration of the fact that there are no potable water wells in the area and the soils beneath the site are of low permeability, we believe the risks associated with this are minimal.

- There is asbestos at the facility which is currently being encapsulated by Buffalo Forge. Approximately 60% of the asbestos at the facility has already been encapsulated.

- Some of the wooden block work areas throughout the facility may rest on sand; however, Buffalo Forge personnel are confident that the majority of these areas are underlain by concrete. Due to the nature of operations at and the types of hazardous materials used by the facility, it may be prudent to conduct a survey of all of these areas and replace all sand (if any) with concrete.

- There are PCBs in the capacitors at the facility which appeared to be in good condition.



SOURCE:
USGS 7.5 MIN. TOPOGRAPHIC MAPS.
BUFFALO NE, NY (1965), LANACASTER, NY (1982)

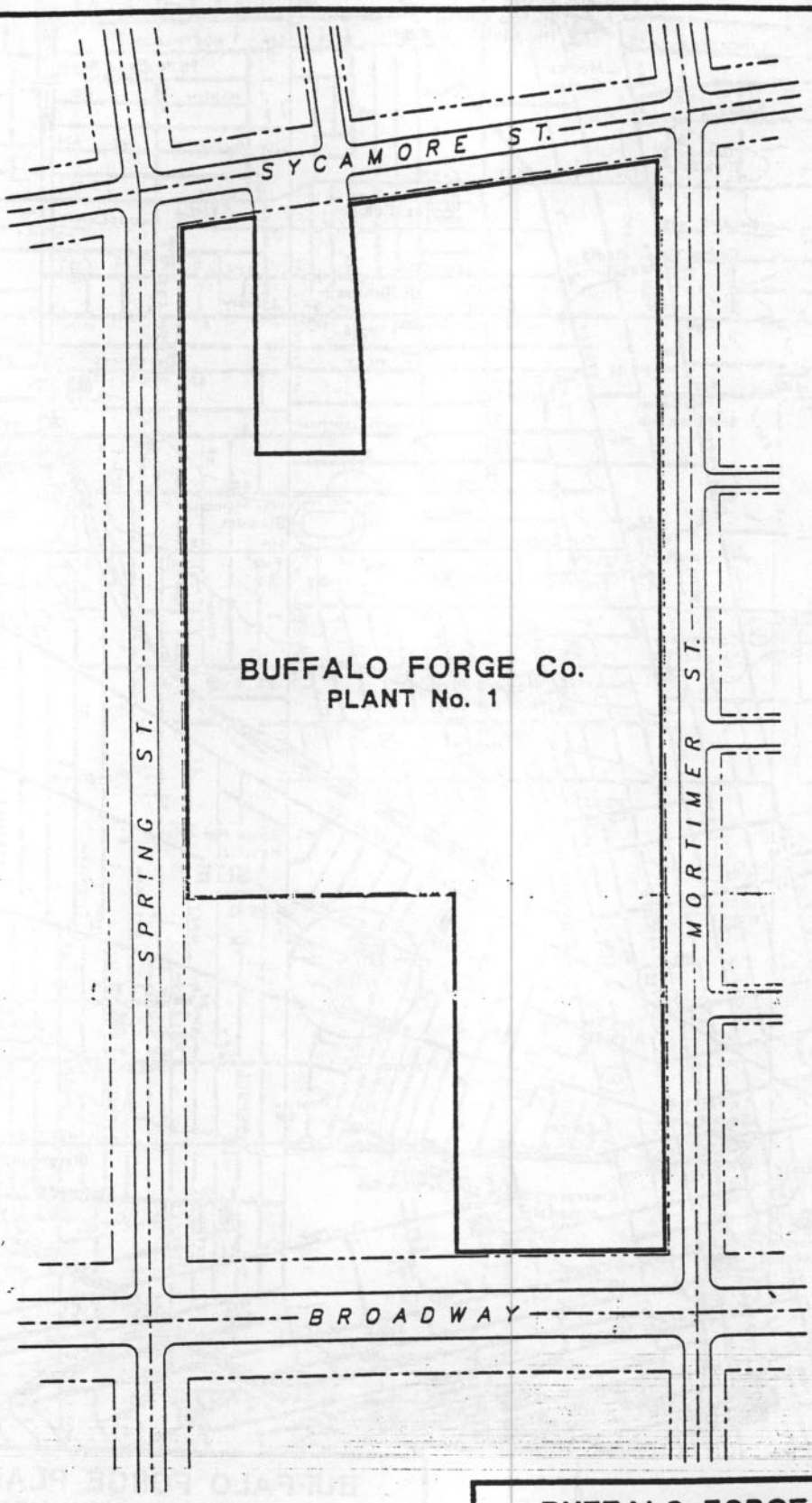
BUFFALO FORGE PLANT No.1
BUFFALO, NEW YORK

FIGURE 1

SITE LOCATION MAP

DAMES & MOORE

JOB No.: 26511-001-152



BUFFALO FORGE PLANT No.1
BUFFALO, NEW YORK

FIGURE 2

SITE PLOT PLAN

0 50 100 200 FT
GRAPHIC SCALE

SOURCE:
BASE MAP FROM SANBORN MAPS
BY E.R.I.I.S.

DAMES & MOORE

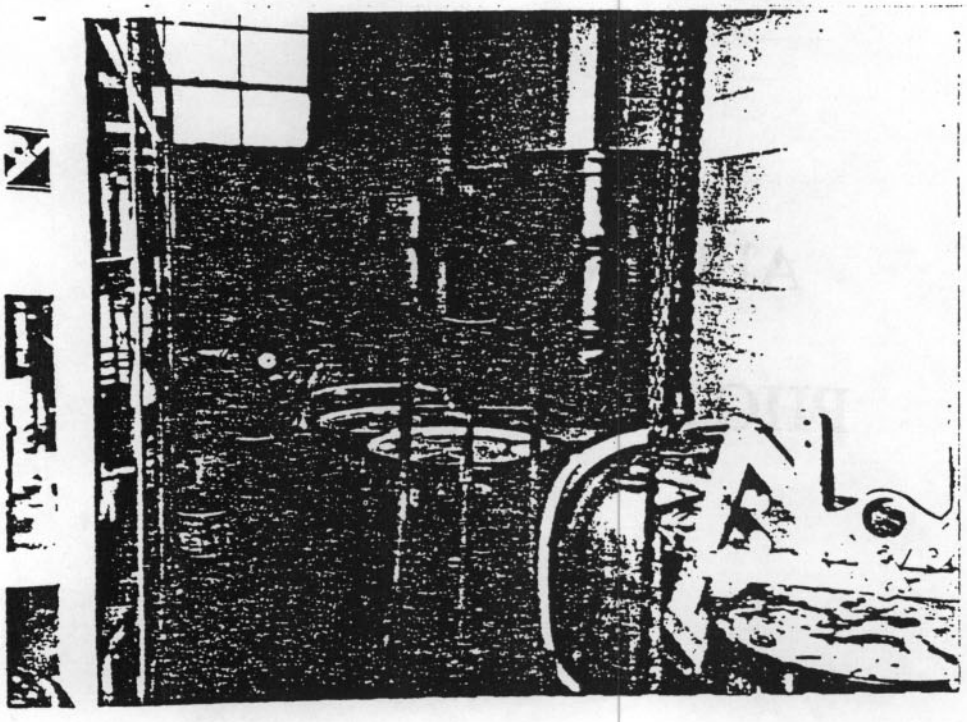
JOB No.: 26511-001-152

APPENDIX A

PHOTOGRAPHS

DAMES & MOORE

PROJECT PHOTO LOG SHEET



CLIENT: Buffalo Forge

SITE LOCATION: 490 Broadway Avenue
Buffalo, NY

PROJECT JOB No.: 26511

DATE OF PHOTO: 4/12/93

TYPE OF CAMERA 35mm XX 110

OTHER:

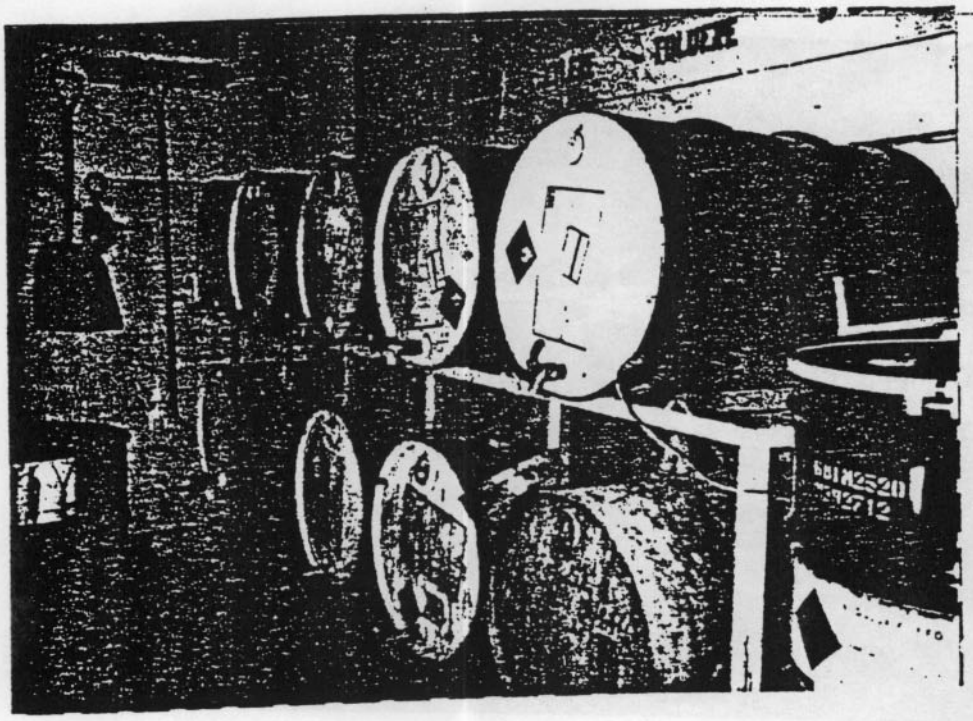
DESCRIPTION

INCLUDE NAMES/ACTIVITY OF PEOPLE IN PHOTOGRAGH, WHY PHOTO WAS TAKEN ORIENTATION OF PHOTO (LOOKING EAST, ETC.), LOCATION WHERE PHOTO WAS TAKEN, PERTINENT PHYSICAL FEATURES, AND ANY OTHER INFORMATION NEEDED TO EXPLAIN THE PHOTO.

Paint and solvent storage room

DAMES & MOORE

PROJECT PHOTO LOG SHEET



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SITE LOCATION: 490 Broadway Avenue
Buffalo, NY

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DATE OF PHOTO: 4/12/93

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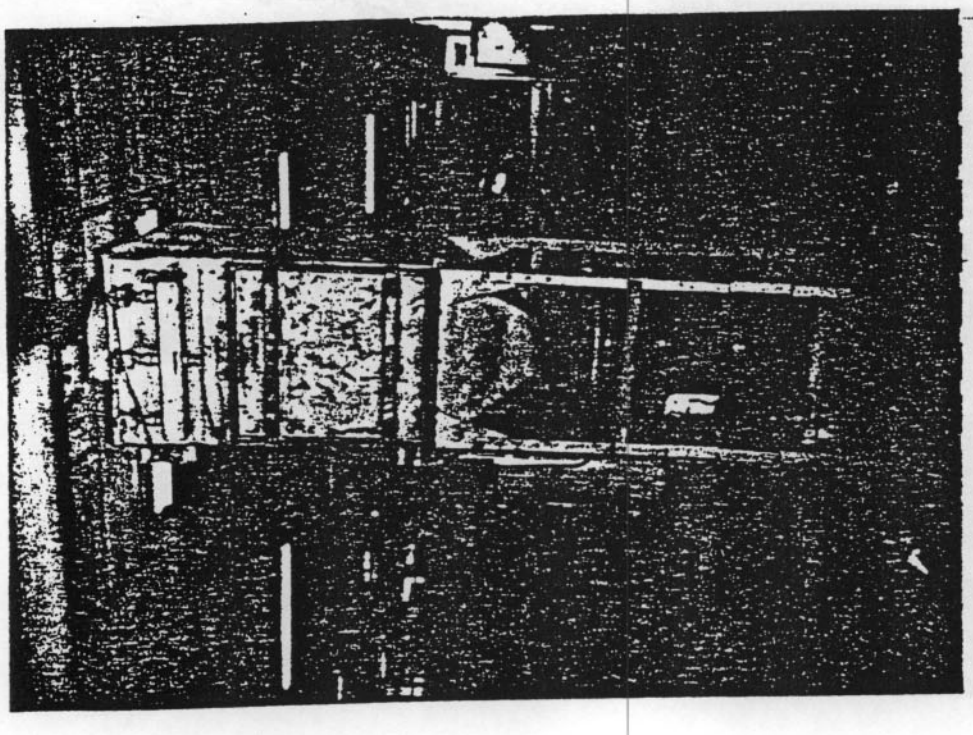
Paint and solvent storage room

DAMES & MOORE

PROJECT PHOTO LOG SHEET



CLIENT: Buffalo Forge

SITE LOCATION: 490 Broadway Avenue
Buffalo, NY

PROJECT JOB No.: 26511

DATE OF PHOTO: 4/12/93

TYPE OF CAMERA 35mm XX 110 ____
OTHER: ____

DESCRIPTION

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Cyclone particle collector

DAMES & MOORE

PROJECT PHOTO LOG SHEET

CLIENT: Buffalo Forge

SITE LOCATION: 490 Broadway Avenue
Buffalo, NY

PROJECT JOB No.: 26511

DATE OF PHOTO: 4/12/93

TYPE OF CAMERA 35mm XX 110 ____

OTHER: ____

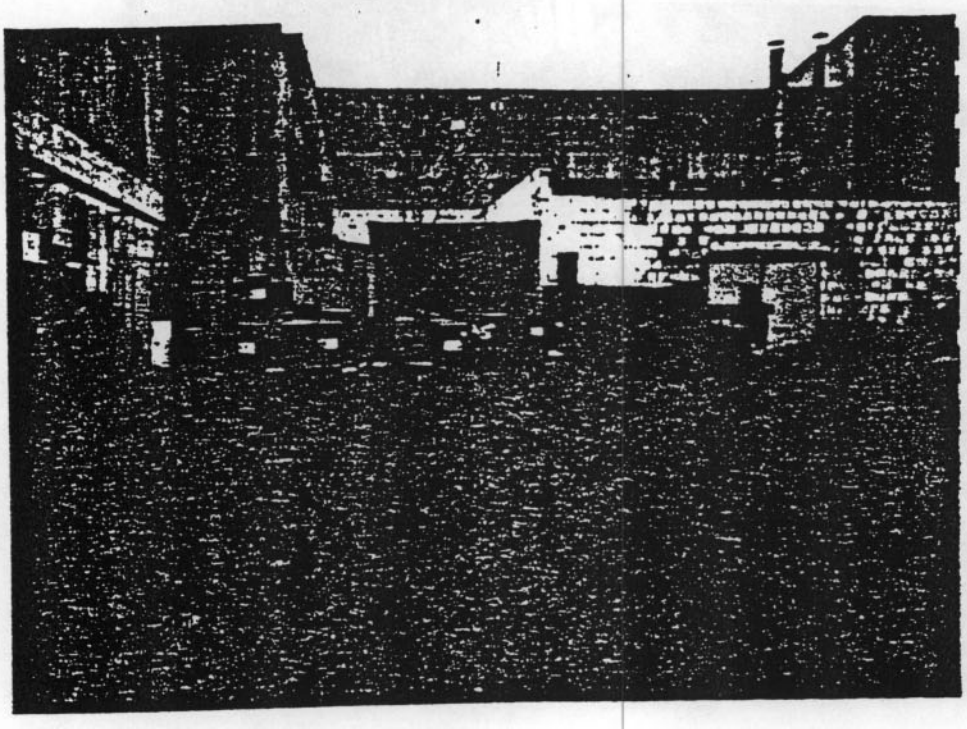
DESCRIPTION

INCLUDE NAMES/ACTIVITY OF PEOPLE IN PHOTOGRAGH, WHY PHOTO WAS TAKEN ORIENTATION OF PHOTO (LOOKING EAST, ETC.), LOCATION WHERE PHOTO WAS TAKEN, PERTINENT PHYSICAL FEATURES, AND ANY OTHER INFORMATION NEEDED TO EXPLAIN THE PHOTO.

Cutting oil storage area.

DAMES & MOORE

PROJECT PHOTO LOG SHEET



CLIENT: Buffalo Forge

SITE LOCATION: 490 Broadway Avenue
Buffalo, NY

PROJECT JOB No.: 26511

DATE OF PHOTO: 4/12/93

TYPE OF CAMERA 35mm XX 110 ____

OTHER: ____

DESCRIPTION

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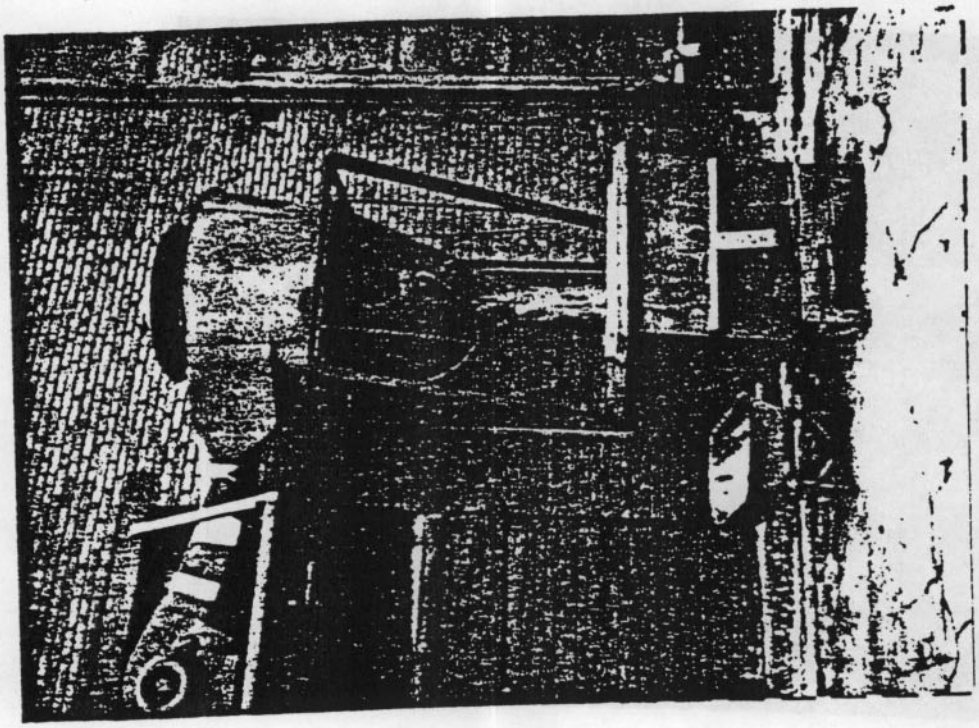
Hazardous waste storage area

DAMES & MOORE

PROJECT PHOTO LOG SHEET



CLIENT: Buffalo Forge

SITE LOCATION: 490 Broadway Avenue
Buffalo, NY

PROJECT JOB No.: 26511

DATE OF PHOTO: 4/12/93

TYPE OF CAMERA 35mm XX 110

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DESCRIPTION

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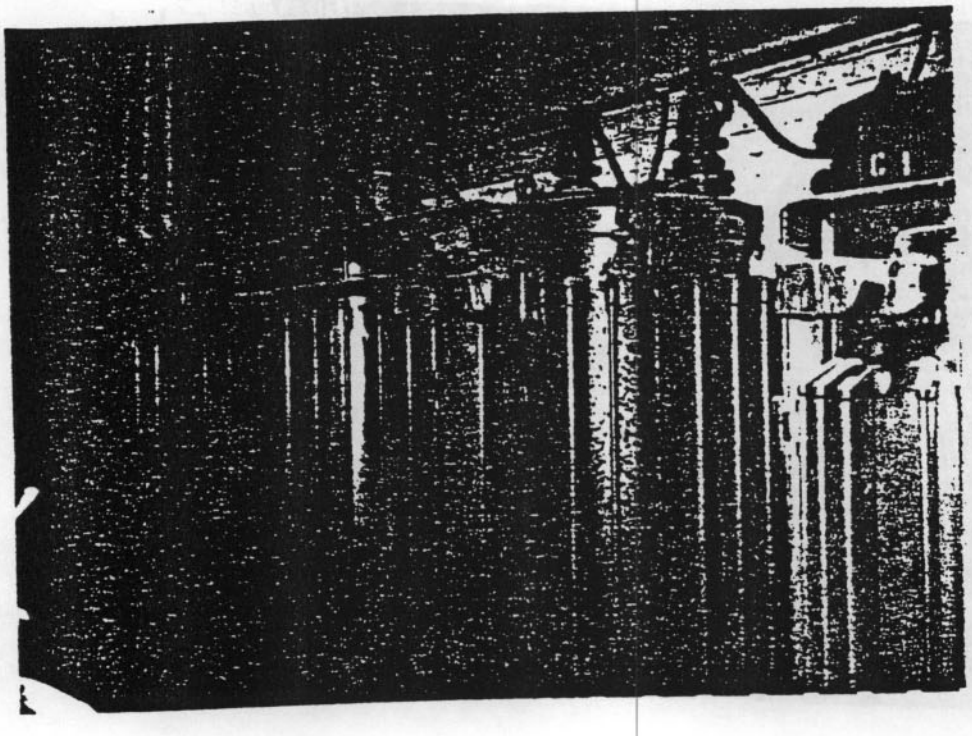
Baghouse for wood dust collector

DAMES & MOORE

PROJECT PHOTO LOG SHEET



CLIENT: Buffalo Forge

SITE LOCATION: 490 Broadway Avenue
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PROJECT JOB No.: 26511

DATE OF PHOTO: 4/12/93

TYPE OF CAMERA 35mm XX 110 ____
OTHER: ____

DESCRIPTION

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Capacitors