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SITE HISTORY REPORT

FORMER GM-SAGINAW FACILITY

BUFFALO, NEW YORK

NYSDEC REGISTRY NO. 915152

Prepared for

GENERAL MOTORS CORPORATION

Detroit, Michigan

March 1995

WEHRAN - NEW YORK, INC.

Grand Island, New York

Environmental Engineers · Scientists · Constructors

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Prepared for

GENERAL MOTORS CORPORATION (GM)

GM Remediation Team

10th Floor Argonaut "A"

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WE Project No. 04853.L1

March 1995

GENERAL MOTORS CORPORATION
SITE HISTORY REPORT
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1.0 INTRODUCTION

On behalf of General Motors Corporation (GM) and in accordance with the Consent Order No. B9-0410-92-09, Wehran-New York, Inc. (Wehran) has conducted a historical review to assess the nature, origin, and extent of the "ash-like" fill material found at the site. This report represents the first deliverable under the Consent Order. Included are the interim findings of the historical review and proposed boring/sampling locations for completion of the site investigation for lead. Additional information on the depositional history of the "ash-like" fill material will be forthcoming in the Site Investigation Report.

The purpose of this review was to evaluate the depositional history of the "ash-like" fill material in Parking Lot #4 (Site) at the Buffalo Plant, formerly owned by GM and currently owned by American Axle & Manufacturing (AAM), and describe the results of borings completed in the northern third of Parking Lot #4. Results of this work have better defined the investigation activities (i.e., location of borings and monitoring wells).

2.0 SITE HISTORY

GM first purchased the southern portion of the Site in May 1964 for use as an employee parking lot. This lot (Parking Lot #4) was constructed in August 1964. GM purchased two additional parcels north of the new parking lot in May 1965. The existing concrete mixing operation was demolished by GM-Saginaw Division (Saginaw) in February 1966 and Parking Lot #4 was expanded to its current size (approximately 12 acres). Construction of the Oily Waste Water Treatment Facility (WWTP) was begun in May 1967. The site was sold to American Axle & Manufacturing, Inc. (AAM) on March 1, 1994, along with the main facility west of the right-of-way (ROW). No other development of the site was conducted until November 1994, when AAM began construction of a Parts Coating Facility on the northern third of the site.

To gain insight into the past use of the Site prior to GM's ownership and specifically related to the "ash-like" fill, a preliminary historical record search has been undertaken. Elements of this record search involved the following:

- Aerial photographic analysis and interpretations;
- A title search of the property;
- Review of Sanborn Fire Insurance Maps;
- Record information provided by the former Saginaw Facility; and
- Discussions with the NYSDEC - Divisions of Solid Waste, Hazardous Waste and Air.

Review of files and discussions with personnel at the following locations:

- City of Buffalo Historical Society;
- City of Buffalo Department of Public Works Survey and Plan Department;
- Buffalo and Erie County Public Libraries;
- City of Buffalo Assessor's Office;
- Erie County Clerk's Office;

- Conrail Buffalo Office;
- Conrail Engineering Department in Albany, New York;
- City of Buffalo Sewer Authority; and
- City of Buffalo Building Department.

Results of the record search as of February 1995 are provided below.

2.1 AERIAL PHOTOGRAPHS REVIEW

The site developmental history was examined by reviewing a series of aerial photographs, which were taken at specific time intervals during the period 1927-1990. Table 2-1 summarizes the aerial photographs available for the site. Several of these photographs were reviewed; specifically, the 1927, 1938, 1942, 1951, 1958, 1966, 1978, 1985, and 1990 series. Based on the review completed as of February 1995, the following summary is provided.

1927

For the earliest available aerial photograph, (1927), development on the west side of the tracks included the GM Plant and support structures. Cornwall Avenue appeared to be a dirt road. The parcel of land on the east side of the tracks was undeveloped except for the presence of baseball diamonds. No other significant structures were noted. The former Scajaquada Creek Channel had been filled. The Creek had been relocated to the south during 1921-1922. Mounds of material (unidentifiable) appeared evident on the north side of the site adjacent to East Delavan Avenue.

1938

A review of the 1938 aerial photograph indicated no significant changes to the area. The plant area on the west side of the tracks appeared to be relatively unchanged from the 1927 photograph. Cornwall Avenue had been completed, although, Scajaquada Street had not yet been constructed. The land on the east side of the tracks changed slightly from the 1927 photograph. The mounds of material evident along the north side of the site adjacent

TABLE 2-1
GENERAL MOTORS CORPORATION - SAGINAW FACILITY
SUMMARY OF AVAILABLE AERIAL PHOTOGRAPHS

AERIAL PHOTO DATE	SOURCE	SCALE	AVAILABILITY	PRODUCT
1951 1966 1968	Clears @ Cornell	1:24,000 1:20,000	Internal Review Only	Photocopies
1927 1966 1978	SUNY @ Buffalo	Detailed 1:48,000 1:48,000	Internal Review Only	Photocopies
1958 1978 1989	Buffalo Department of Public Works	1"=100'	Blueprints and/or photostats	Blueprints and/or Photostats
1942 1951 1958 1978 1985 1990	Erie County Soil and Water Conservation Service	Varies	Internal Review Only and/or Copies	Photocopies or Slides Aerial Photos
1938	National Archives	Unknown	Copies	Copies

to East Delavan Avenue had been removed. [An office and garage were constructed along East Delavan in 1933 and expanded in 1936 for use as an auto transport and storage business based on information obtained from City of Buffalo Building Department records.] A number of vehicles, possibly trucks, were parked around the office and garage buildings in the 1938 aerial photograph. The remainder of the property on the east side of the tracks, specifically the area that is now Parking Lot #4, remained undeveloped with some dirt roads traversing the site. The baseball diamonds noted in the 1927 aerial photograph were still present, suggesting continued public use of the property.

1942

In the 1942 photograph, the plant area on the west side of the tracks appeared unchanged from the 1938 photograph. East of the tracks, the Site was relatively level and overgrown. Dirt roads were still present, traversing the site. Scajaquada Street had been constructed as a paved road. The baseball diamonds were not evident in 1942.

1951

In the 1951 photograph, no significant site changes were observed on the parcel west of the tracks except for the development of some parking areas. In the area east of the tracks, land disturbance was observed. This was related to the presence of a concrete mixing operation by Buffalo Gravel Corporation. [Note: The Buffalo Gravel Corporation obtained a portion of the property in 1947.] A dirt road ran south from East Delavan Avenue to the center portion of the site and the area of greatest site disturbance. A road bordering the southern portion of the site area had also been developed. No signs of the former Scajaquada Creek bed were evident.

1958 and 1966

The 1958 photograph did not show any substantial changes relative to the 1951 aerial photograph. Buffalo Gravel operations were still evident in the area east of the tracks. Between 1958 and 1966, the concrete mixing plant was demolished and Parking Lot #4 was paved.

1978

The 1978 photograph was similar to the 1966 photograph except that the WWTP was constructed on the parcel east of the plant. The WWTP was constructed in the late 1960's (1967/1968) in the general area of the former concrete mixing operation. Additional plant buildings were evident on the parcel west of the tracks.

1985 and 1990

No significant changes were evident in the site area west and east of the tracks based on review of the 1985 and 1990 photographs.

2.2 TITLE SEARCH

A search of the Erie County Deed Records was conducted to evaluate several property lots comprising the former General Motors Corporation-Saginaw Division facility located on East Delavan Avenue in the City of Buffalo (see Table 2-2). The Section/Block/Lot (SBL) Parcels pertaining to the former Saginaw property, which is now Parking Lot #4, are 101.24-1-3, and 90.80-4-3. Also investigated were the adjacent parcels SBL 101.24-1-2, 101.24-1-4, 90.80-4-1, and 90.80-4-2 (see Figure 2-1).

The transfer of ownership of the properties was examined by first reviewing the Real Property documents filed at the Erie County Department of Finance Office. These records were rather incomplete, since most of them only showed an ownership back to the mid 1950s.

Once the Real Property information was obtained, a review of the respective deeds was completed at the Erie County Clerk's Office. During the review, many of the deeds indicated the party(s) from whom the property had been conveyed and the deed associated with the conveyance. This information designated the next deed to be reviewed. This procedure worked well for most of the parcels, except for Parcels 101.24-1-1, 101.24-1-3, and 90.80-4-3, formerly owned by GM-Saginaw. In each case for the former GM-Saginaw parcels, the transfer of property could be traced to the mid 1940s and 1950s. For SBL 101.24-1-3 and SBL 90.80-4-3, ownership could be traced to a company called The Bardol

TABLE 2-2
GENERAL MOTORS CORPORATION - SAGINAW FACILITY
SUMMARY OF TITLE SEARCH INFORMATION

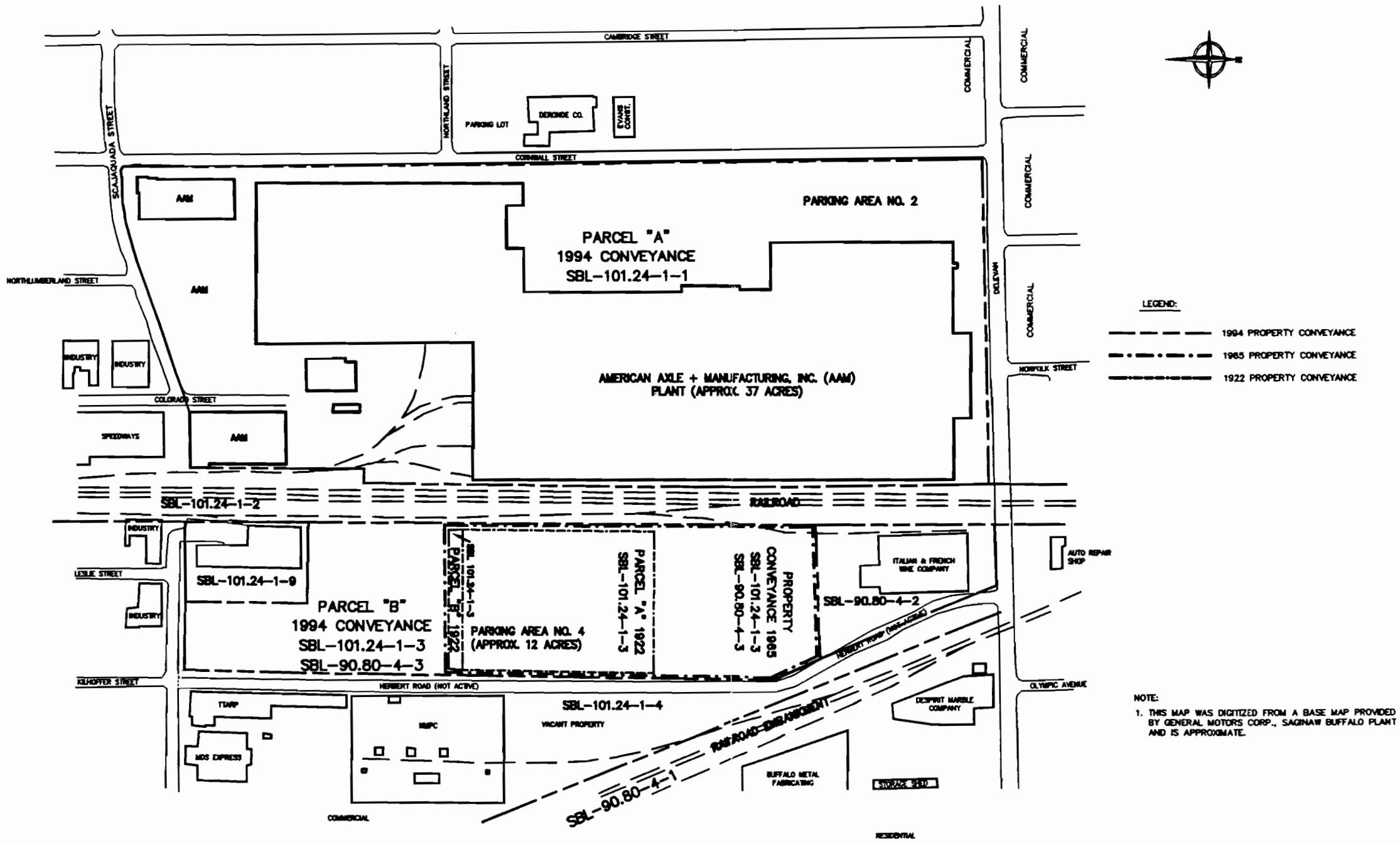
SECTION BLOCK LOT NO.	CONVEYANCE	DATE OF CONVEYANCE AND ASSOCIATED DEED
SBL 101.24-1-1 (Current Manufacturing Facility Location)	Robert E. Woodruff & John A. Hadden (Trustees) to General Motors Corporation	December 18, 1941; Liber 3194, pg. 539
	General Motors Corporation to Defense Plant Corporation	May 1, 1942; Liber 3380, pg. 374
	Defense Plant Corporation to General Motors Corporation	October 17, 1945; Liber 3782; pg. 548
SBL 101.24-1-2 (Current Consolidated Rail Corporation)	Isaac Taylor & Wife Anne to NY Lake Erie & Western RR Co.	November 15, 1881; Liber 401; pg. 328
	William Taylor & Wife Elizabeth to The Suspension Bridge & Erie Junction RR Co.	September 3, 1870; Liber 250; pg. 564
	NY Lake Erie & Western RR Co./ The Suspension Bridge & Erie Junction RR Co. to General Motors Corporation	
	General Motors Corporation to Erie Lackawanna RR Co.	March 5, 1942; Liber 3217; pg. 195
	Erie Lackawanna RR Co. to Consolidated Rail Corporation	October 11, 1978; Liber 8706; pg. 313
SBL 101.24-1-3 (Currently Southern Section of Parking Lot #4) This Property appears to have been sold in subparcels.	Bardol Company, Inc. to Buffalo Gravel Corporation	April 8, 1953; Liber 5301; pg. 87
	Buffalo Gravel Corporation to General Motors Corporation	May 21, 1965; Liber 7112; pg. 69
	Bardol Company, Inc. to General Motors Corporation	May 21, 1964; Liber 7000; pg. 157

TABLE 2-2
GENERAL MOTORS CORPORATION - SAGINAW FACILITY
SUMMARY OF TITLE SEARCH INFORMATION

SECTION BLOCK LOT NO.	CONVEYANCE	DATE OF CONVEYANCE AND ASSOCIATED DEED
SBL 101.24-1-4 (Currently Niagara Mohawk Right of Way) This Property appears to have been sold in subparcels.	John Taylor, Trustee to Niagara Mohawk Corporation	February 5, 1953; Liber 5268; pg. 379
	Buffalo Gravel Corporation to Niagara Mohawk Corporation	April 8, 1953; Liber 5301; pg. 91
	Bardol Company, Inc. to Niagara Mohawk Corporation	April 8, 1953; Liber 5301; pg. 94
	Lorraine Morrison to Niagara Mohawk Corporation	May 26, 1953; Liber 5331; pg. 97
	Carl Klein to Delaware Lackawanna RR Co.	November 22, 1881; Liber 426; pg. 188
	Delaware Lackawanna RR Co. to Niagara Mohawk Corporation	April 13, 1954; Liber 5528; pg. 242
	Delaware Lackawanna RR Co. to Roman Wiate Roman Wiate to Niagara Mohawk Corporation	August 3, 1954; Liber 5605; pg. 12 October 5, 1954; Liber 5620; pg. 506
SBL 90.80-4-1 (Currently Consolidated Rail Corporation)	Henry Weber & Wife Anna to New York Lake Erie RR Co.	November 15, 1881; Liber 401; pg. 327
	John Jackl & Wife Mary to The Suspension Bridge & Erie Junction RR Co.	October 15, 1870; Liber 250; pg. 623
	NY Lake Erie RR Co./ The Suspension Bridge & Erie Junction RR Co. to Erie Lackawanna RR Co.	October 17, 1945; Liber 3782; pg. 548
	Erie Lackawanna RR Co. to Consolidated Rail Corporation	October 11, 1978; Liber 8706; pg. 313

TABLE 2-2
GENERAL MOTORS CORPORATION - SAGINAW FACILITY
SUMMARY OF TITLE SEARCH INFORMATION

SECTION BLOCK LOT NO.	CONVEYANCE	DATE OF CONVEYANCE AND ASSOCIATED DEED
SBL 90.80-4-2 (Currently Italian & French Wine Company)	Erie & Lackawanna Land Association to Henry Weber & Wife Erie & Lackawanna Land Association to Philip Morhres & Wife	
	Henry Weber & Wife/Philip Morhres to Fred C. M. Lautz	February 25, 1889/June 29, 1892 Liber 560/604 Page 164/518
	Fred C. M. Lautz to Bardol Company, Inc.	March 31, 1913; Liber 1245; pg. 96
	Bardol Company, Inc. to Arbee Corporation	April 17, 1951; Liber 4903; pg. 472
SBL 90.80-4-3 (Currently Northern Section of Parking Lot #4)	Bardol Company, Inc. to Buffalo Gravel Corporation	April 8, 1953; Liber 5301; pg. 87
	Buffalo Gravel Corporation to General Motors Corporation	May 21, 1965; Liber 7112; pg. 49



NOTE:

1. THIS MAP WAS DIGITIZED FROM A BASE MAP PROVIDED BY GENERAL MOTORS CORP., SAGINAW BUFFALO PLANT AND IS APPROXIMATE.

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APPROXIMATE SCALE IN FEET

DATE 3/1/95
DWN. MWP
APPR. _____
REVIS. _____
PROJECT NO.
04853

FIGURE 2-1
GENERAL MOTORS CORP.
SAGINAW DIVISION
CITY OF BUFFALO, ERIE COUNTY, N.Y.
SUMMARY OF PROPERTY PARCELS

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Corporation. For SBL 101.24-1-1, ownership could not be traced beyond trustee ownership in 1941. The remaining adjacent SBL parcels were traced back to the late 1800s.

Based on a review of the adjacent SBL parcels, it was concluded that a majority of the Bardol Corporation holdings were acquired during the early 1920s. A review of the Grantee Indexes for the years 1906 through 1930 was conducted and each property transaction that involved either the Bardol Corporation or the owner, Frank V. E. Bardol was noted. There were 18 transactions that occurred during the 24-year period. A review of the deeds associated with each transaction was conducted in an effort to cross-reference each transaction with one of the SBL parcels of interest. A majority of the transactions were not associated with SBL parcels of interest.

An additional title search (provided as Appendix A) was completed by Monroe Title Insurance Corporation against two parcels of land, A and B, approximately 4.12 acres and 0.285 acres, respectively, in the area of Parking Lot #4. In 1922, Frank and Katherine Bardol conveyed Parcel A to the Bardol Company, Inc. Subsequently, in 1947, the parcel was conveyed to Buffalo Gravel Corporation, Inc. Parcel B was conveyed by the Bardol Company to Buffalo Gravel Corporation in May 1965. Later in May 1965, Buffalo Gravel Corporation conveyed both Parcels A and B to General Motors Corporation.

2.3 HISTORICAL MAPS/FIGURES

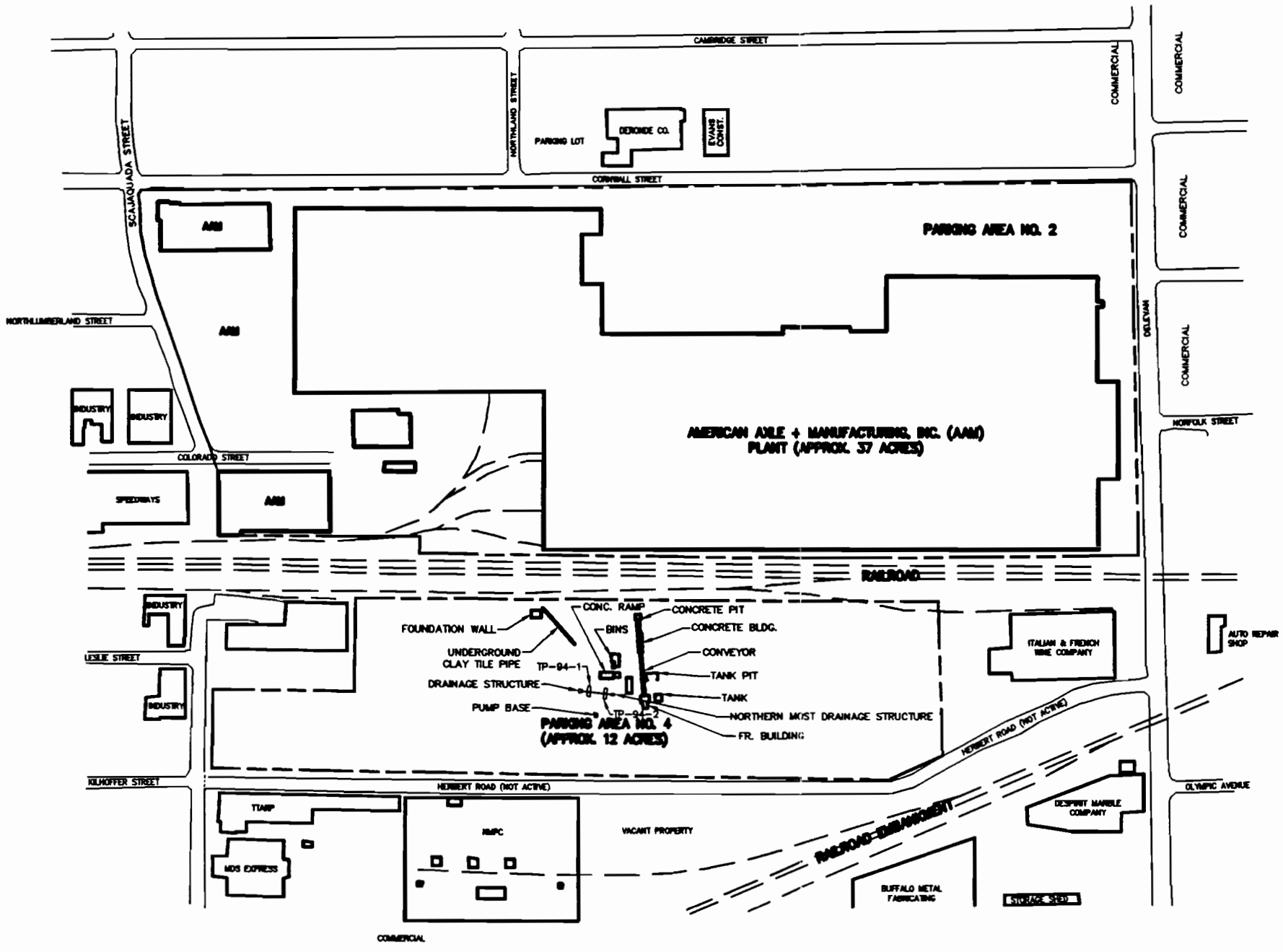
A review of historic fire insurance maps from the Sanborn Mapping & Geographic Information Service was conducted to gain information about the development of the subject area. The 1917 map series shows Scajaquada Creek in its natural location, above ground and flowing slightly to the north through the GM site. Northland Avenue was running east to west across the parcels. No portions of the GM facility had been constructed as of the time of the mapping (the original Chevrolet plant was not constructed until 1922). Both of the railroad right of ways are in place. No structures had been constructed on the property east of the railroad tracks (currently Parking Lot #4). There were no indications from the 1917 maps of what the property use may have been.

The 1939 series Sanborn maps show the Scajaquada Creek Drain located underground below what is now Scajaquada Street. The area east of the railroad tracks that is currently Parking Lot #4, was still undeveloped. Two structures, an office and auto repair garage, were present along East Delavan Avenue where Safetek of America is now located. West of the railroad tracks, the GM plant was highly developed.

By 1950, Scajaquada Street was constructed and beginning to be developed by businesses. The property east of the railroad tracks (current Parking Lot #4) is occupied by the Buffalo Gravel Corporation cement mixing operation. Four structures and a gasoline tank (unknown volume) comprise the operation. The facility occupied approximately 180,000 square feet (360' x 500') and was surrounded by a six-foot high, wire fence. The remainder of the area now occupied by Parking Lot #4 was undeveloped according to the map. Along East Delavan Avenue, the auto transport garage had been demolished and the office building for that business was vacant. The main GM facility on the west side of the tracks remained essentially unchanged from the conditions shown on the 1939 map.

The 1986 Sanborn map showed the area to be much as it is today. The area east of the railroad tracks was developed by small businesses along Scajaquada Street, Parking Lot #4 and the WWTP, and the Italian & French Wine Company along East Delavan Avenue (currently Safetek of America). The GM facility on the west side of the tracks was expanded from its 1950 size.

In addition to the fire insurance maps, a review of other historical maps and figures was completed at the GM-Saginaw Facility. A 1965 survey map of Parking Lot #4 showed the structures present on the site prior to GM-Saginaw purchase. (Reference: "Extension to Parking Lot #4 Chevrolet Motors Division, General Motors Corporation, Buffalo Plant" prepared by John G. Schwartz, Registered Architect). Features from this figure have been placed onto Figure 2-2. Of specific reference were the two drainage structures situated east of the conveyor belt, the foundation wall and the clay tile pipeline located by Wehran. It should be noted that this pipeline, located by Wehran, was not shown on the above-referenced 1965 survey map. As can be seen, the orientation of the clay tile pipeline



NOTE:

1. THIS MAP WAS DIGITIZED FROM A BASE MAP PROVIDED BY GENERAL MOTORS CORP., SAGINAW BUFFALO PLANT AND IS APPROXIMATE.

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APPROXIMATE SCALE IN FEET

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FIGURE 2-2
GENERAL MOTORS CORP.
SAGINAW DIVISION
CITY OF BUFFALO, ERIE COUNTY, N.Y.
FORMER BUFFALO GRAVEL CORP. FACILITY

appears to align the "foundation wall" with the "north drainage structure." The purpose of the "foundation wall" was unknown.

According to A. Glieco, a former Saginaw employee now an AAM employee, the "foundation wall" was approximately 20 feet x 20 feet, 1.5 feet aboveground and four to five feet deep. The clay tile pipeline grades toward the foundation wall at a two percent slope. Due to potential inaccuracies in the mapping and transpositioning of features from several maps, it is possible that the clay tile pipeline was tied into the foundation wall, but this has not been verified.

Data suggesting the clay tile pipeline does not exist to the east beyond the area shown was provided by test pits completed on the east side of the WWTP in 1990. Specifically, two test pits were completed along the extrapolated alignment of the clay tile pipeline (TP-F and TP-G, as referenced in the July 1990 Wehran report - "Additional Investigations Associated with Delineation of Clay Tile Pipe"). This suggests that the clay tile pipeline and drainage structures were removed. However, the possibility exists that oil was present in this drainage structure. Subsurface explorations are planned to assess whether the north and south drainage structures exist and whether oil is present.

3.0 RECENT INVESTIGATIONS

Recent investigations were completed in Parking Lot #4 to include borings and "hot spot" removal. Investigations were also completed on the west side of the Conrail ROW around and in the existing main manufacturing facility.

3.1 PARKING LOT #4

This project was initiated in October 1986 when a study was completed to provide preliminary characterization of the facility soils and groundwater with the intent of satisfying the "Conditions for Major Petroleum Facility License." A number of subsequent investigations were completed through 1993 to assess the extent of PCBs and lead in the subsurface. These investigations were described in Wehran's work plan dated June 1994, and revised November 1994. This section discusses further work that has been conducted since submittal of the work plan.

In September 1994, additional soil samples were collected from borings as part of a geotechnical investigation, conducted for structural design as part of AAM's proposed construction of a Parts Coating Facility in the northern portion of Parking Lot #4. Borings BH-1 through BH-5 were completed by Malcolm Pirnie, Inc., with samples collected and analyzed for total lead. Results of these samples are presented in Table 3-1. Additional borings (BH-6 through BH-10) were completed by Wehran later that month. Soil samples consisted of the "ash-like" fill material, or the materials immediately above or underlying the "ash-like" fill material. Samples were collected from five borings as located on Figure 3-1 and analyzed for total lead. Results of the lead testing from borings BH-6 through BH-10 are presented in Table 3-1. The results indicated that further work was warranted to assess lead distribution at the site.

Based on the results of the September 1994 sampling effort and to further assess lead concentrations in the area of the proposed AAM Parts Coating Facility, Wehran installed an additional 17 soil borings in the northern portion of Parking Lot #4 in October 1994. Figure 3-1 depicts the locations of these borings, as well as the five borings installed

TABLE 3-1
GENERAL MOTORS - SAGINAW FACILITY
SUMMARY OF LEAD SAMPLING RESULTS

Boring Number	Depth (feet)	Lead Concentration (mg/kg)
BH-1	0.5-2	50
BH-2	0.5-2	757
BH-3	0.5-2	99
BH-4	0.5-2	290
BH-5	0.5-2	280
BH-6	2-4	266
	4-6	243
BH-7	2-4	1170
BH-7A[1]	4-6	55[1]
BH-8	0.5-2	254
	2-4	890
BH-9	0.5-2	268
	2-4	11200[2]
Duplicate	2-4	4190[2]
BH-10	0.5-2	953
	2-4	175
BH-11	4-6	120
BH-12	2-4	960
BH-13	6-8	2900
BH-14	2-4	4400
BH-15	2-4	280
BH-16	2-4	630
Duplicate	2-4	720
BH-17	8-10	1500
Duplicate	8-10	5000

TABLE 3-1
GENERAL MOTORS - SAGINAW FACILITY
SUMMARY OF LEAD SAMPLING RESULTS

Boring Number	Depth (feet)	Lead Concentration (mg/kg)
BH-18	2-4	490
BH-19	2-4	4000
BH-20	6-8	1300
BH-21	2-4	440
BH-22	2-4	460
BH-23	4-6	770
BH-24	2-4	720
BH-25	4-6	530
BH-26	4-6	1300
BH-27	4-6	970

Notes:

1. Boring BH-7 was initially reported to contain 32,700 mg/kg of lead. However, duplicate analysis on the same sample indicated the concentration was 67.6 mg/kg. Due to the disparity in results, an additional boring was drilled within one foot of boring BH-7 and a sample obtained from the same depth interval. That result is presented above.

2. Results of duplicate samples from the site are commonly different by more than 25%. It is believed this disparity is a result of the heterogeneous sample matrix as opposed to analytical error.

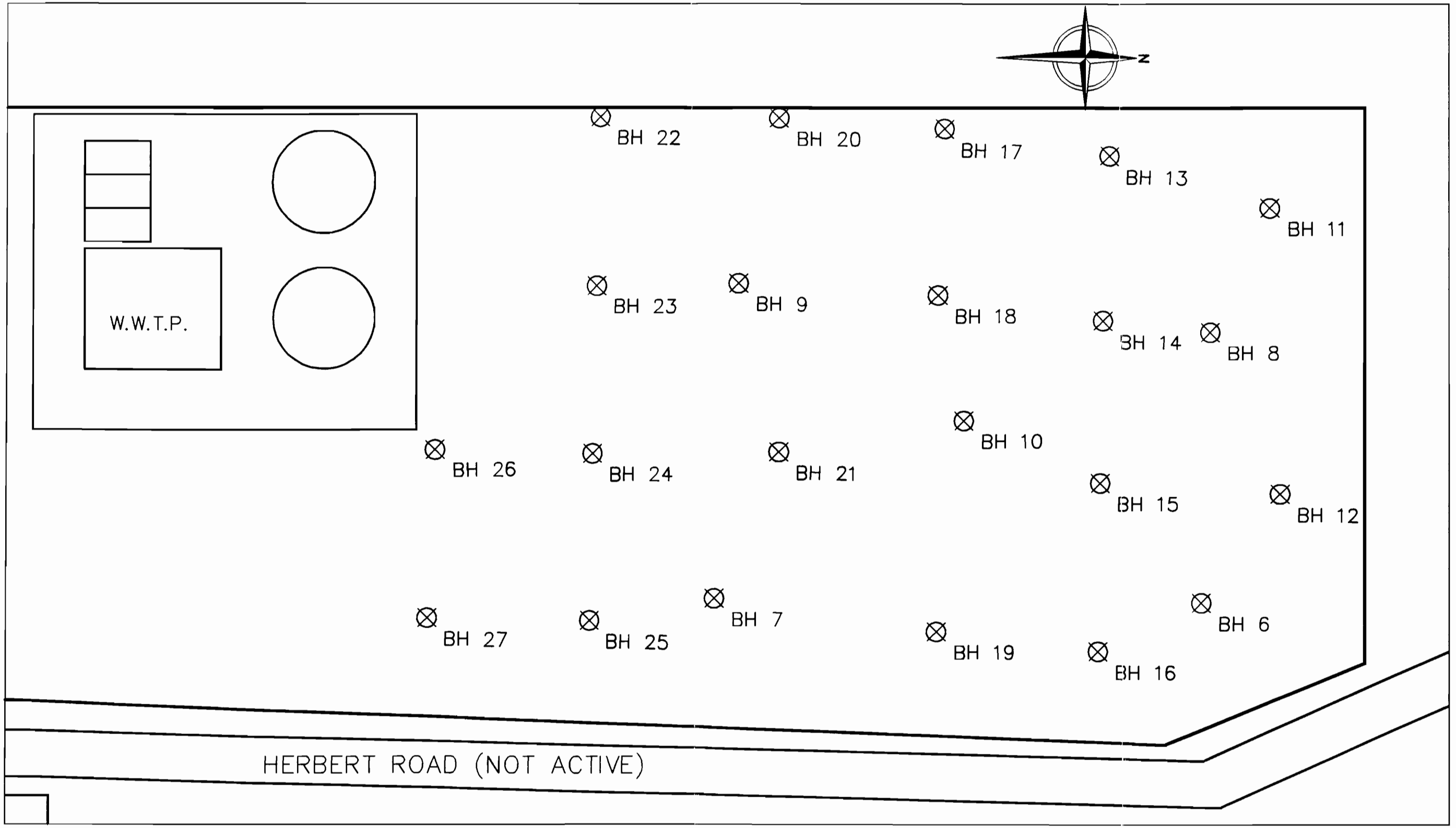

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FIGURE 3-1
GENERAL MOTORS CORP.
SAGINAW DIVISION
CITY OF BUFFALO, ERIE COUNTY, N.Y.
SITE INVESTIGATION 9/94-10/94

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in September. Borings were placed on a 100' x 100' grid throughout Parking Lot #4 in the area north of the WWTP. Samples underwent field screening for lead using X-ray fluorescence (XRF). Samples recording the highest readings for lead with the XRF were selected for laboratory analysis. In most cases, selected soil samples consisted of the "ash-like" fill material. Results of the total lead testing for Borings BH-11 through BH-27 are presented in Table 3-1.

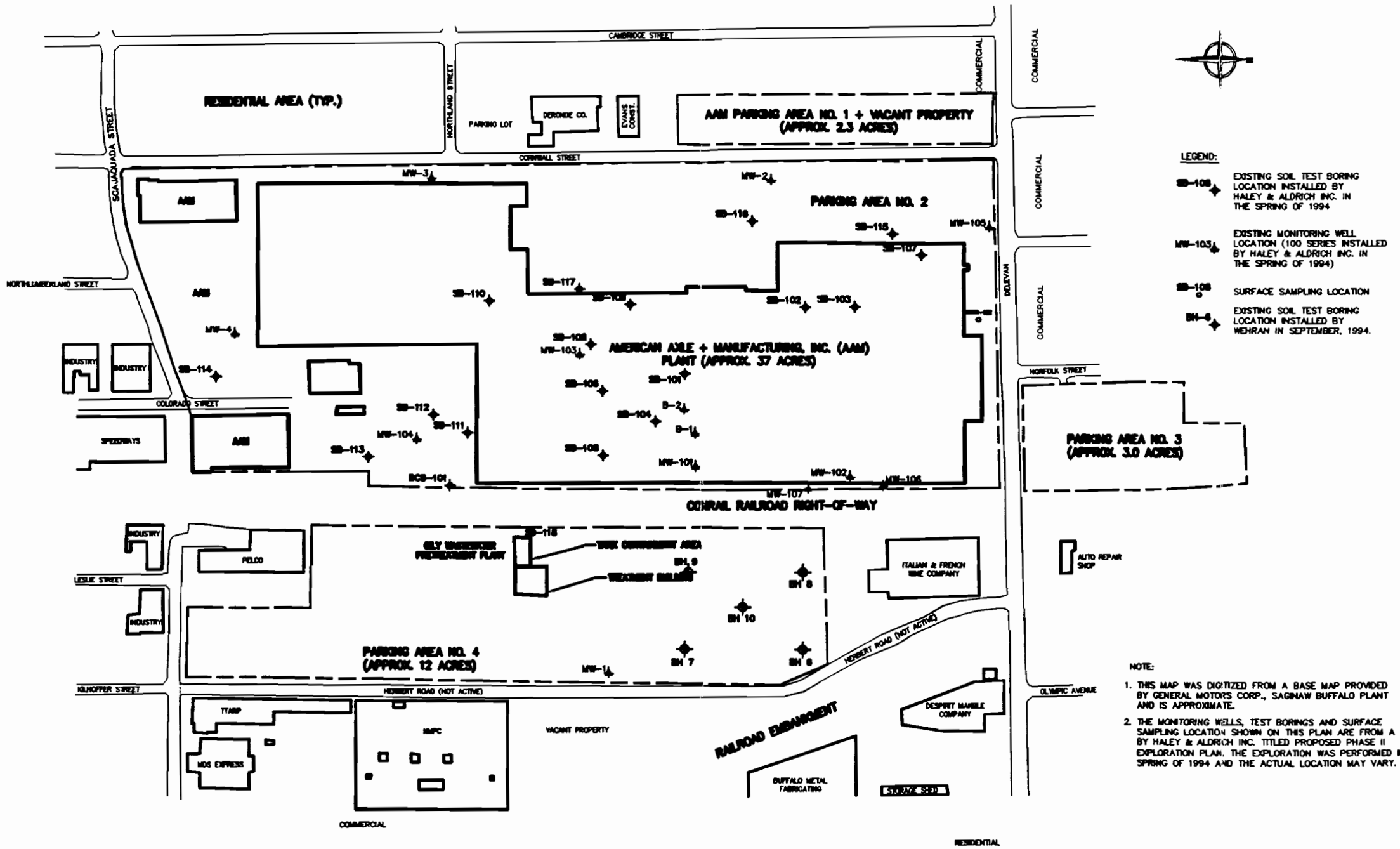
The highest lead concentrations were detected in samples obtained from borings BH-13, BH-14, BH-17, BH-19, BH-20, and BH-26. Concentrations for the samples from these borings ranged from 1300 to 5000 mg/kg. These levels are consistent with concentrations observed for Parking Lot #4 in previous investigations.

3.1.1 "HOT SPOT" REMEDIATION

AAM proceeded with the Parts Coating Facility expansion in November, 1994. The Parts Coating Facility in Parking Lot #4 is currently being constructed over areas with fill materials containing lead. GM was concerned about the presence of "hot spot" lead concentrations. Based on the results of the borings, the boring locations with a total lead level in excess of 5000 mg/kg were removed. Two locations; BH-9 and BH-17, had concentrations in excess of 5000 mg/kg.

"Hot spot" remediation was completed during November 1994. The remediation involved excavation of the fill and off-site treatment and disposal. An approximate four foot by four foot square was excavated at both of these boring locations down to the top of native clay. Field XRF testing was used to confirm that no further excavation was necessary (i.e., that the total lead levels were less than 5,000 mg/kg). Also, confirmatory samples were collected and analyzed at a New York State Department of Health approved laboratory for lead using the NYSDEC Analytical Services Protocol (ASP). These results are contained in Appendix B.

Two roll-off boxes were generated as a result of this excavation. The excavated waste was manifested as a hazardous waste (D008) and transported off-site to Chemical



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APPROXIMATE SCALE IN FEET

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PROJECT NO. 04853

FIGURE 3-2
GENERAL MOTORS CORP.
SAGINAW DIVISION
CITY OF BUFFALO, ERIE COUNTY, N.Y.
PROPERTY TRANSFER SAMPLING LOCATIONS

Waste Management for stabilization prior to land disposal. Additional documentation of these activities will be provided in the Site Investigation Report.

3.2 SUBSURFACE EXPLORATIONS–WEST OF CONRAIL RAILROAD ROW

Subsurface explorations and associated analytical testing were completed west of the Conrail Railroad ROW. Figure 3-2 presents the location of borings and wells completed by GM as part of the property transfer. This work was done in conjunction with the sale of the property to AAM. Preliminary results of this work as they pertain to the lead study are described below.

A review of the boring logs indicates the following:

- Typically about one foot of concrete was encountered at the borings; although, at one location, 6.5 feet of concrete was encountered;
- Fill materials were encountered at all boring locations consisting of gravel, sand, clay and silt admixed with brick, glass, and wood fragments. This fill appears to be significantly different than the fill materials on the east side of the Railroad ROW (i.e., no coal ash or bottles). Fill thickness (including concrete) averaged approximately six feet and ranged from 1.5 to greater than 11.5 feet.
- Native silty clay was encountered at depths between 1.5 and 9.8 feet. At certain boring locations, silty clay was not encountered.
- A glacial till layer overlying bedrock was reported at three borings/well locations. The glacial till is between 1.5 and 3.1 feet thick.
- Bedrock was reportedly encountered at depths of 6.4 feet at well MW-1 to 17.1 feet at boring SB-109.

Results of all available lead testing data for soil samples are presented below:

BORING NO.	DEPTH (Feet)	LEAD CONCENTRATION (mg/kg)
BCS-101	0-6	28
SB-111	2-4	33.1
SB-111	4-6	27.7
MW-104	4-6	28.8
MW-104	4-6 (duplicate)	25.9
MW-104	6-8	12.2
MW-104	6-8 (duplicate)	12.7
SB-112	0-2	83
SB-112	2-4	74.1
SB-113	0-2	35.2
SB-113	2-4	335
BSS-101	0-2	285
BSS-101	0-2 (duplicate)	259

Based on these data, the lead levels measured west of the Conrail Railroad ROW were substantially less than the lead levels detected on the east side of the Railroad ROW. Also, the fill materials found during this investigation appeared significantly different from those found at the Site. Consequently, no work was proposed for the area west of the Railroad in the work plan.

3.3 SUMMARY OF ANALYTICAL TESTING

Selected results for the Site including other analytes and media are summarized in Table 3-2. Results indicate that volatile organics (USEPA Method 8240), semi-volatile organics (USEPA Method 8270) and pesticides/herbicides (USEPA Method 8080) have not been detected with the exception of 1,2-dichlorobenzene which was measured at a

TABLE 3-2
GENERAL MOTORS CORPORATION - SAGINAW DIVISION
SUMMARY OF ANALYTICAL TESTING[1,2]

REPORT	DATE	SAMPLE TYPE	ANALYSES	SAMPLE DESCRIPTION	REMARKS
Soil Sampling and Analytical Testing of the Tank Containment Area	September and December, 1987	Soil/Fill	PCBs, EP TOX Metals, Ignitability, Zinc, TOX	TP-1, TP-2	
Delineation of Groundwater Contamination Associated wit the Reclaimed Oil Tank Containment Area	December, 1987	Soil/Fill	Ignitability, Corr., Reac., EP TOX, TOX, VOCs via 601, 602, 603	TP-3, TP-8. TP-10, TP-13	VOCs not detected except for 1,2 dichlorobenzene
		Groundwater	Gasoline, Kerosene, and Lubricating Oils	TP-8, TP-10, TP-13	Only lubricating oils indicated
Test Pit Grab Sample	October, 1988	Soil/Fill	PCB, VOC by 8010, EP TOX Metals, Free Liquids, pH	TP-19	No VOCs detected
			EP TOX Metals, PCB, pH, THO, VOC, Free Liquids	GM-1	
Additional Sampling of Oily Contaminated Soil as Requested by NYSDEC	March, 1989	Soil/Fill/Oil	PCB	Test Pit Soil/Oil	
		Soil Pile	PCB	Pile No. 1	
		Waste Oil from Pipe	PCB	DEC-15	NYSDEC Split Samples from TP-C
		Soil Pile	PCB	DEC-16	
		Oil Stained Soil	PCB	DEC-17	
Grab Sampling During Excavation	July, 1989	Oil/Water in Exc., Mat. under pipe, Mat. in pipe	PCBs, Cyanide	See sample type	Split Samples form TP-C

Notes:
1. Data from samples collected after 1990 limited to PCBs, EP TOX Lead, TCLP Lead, and Total Lead. Results not depicted by this table.
2. Refer to Wehran report "Response to NYSDEC letter of June 29, 1989" dated October, 1989 for a summary of the above data and Wehran report "Additional Investigations Associated with Delineation of Clay Tile Pipe", dated July, 1990.
3. Abbreviations: TOX-Total Organic Halides; THO-Total Halogenated Organics; SVOC-Semi-Volatile Organic Compound; VOC-Volatile Organic Compound; EP TOX-Extraction Procedure Toxicity Test; Reac-Reactivity; Corr-Corrosivity; PCB-Polychlorinated Biphenyl.

TABLE 3-2 (Continued)
GENERAL MOTORS CORPORATION - SAGINAW DIVISION
SUMMARY OF ANALYTICAL TESTING[1,2]

REPORT	DATE	SAMPLE TYPE	ANALYSES	SAMPLE DESCRIPTION	REMARKS
Response to NYSDEC Letter of June 2, 1989	October, 1989	Fill/Soil	Oil and Grease and PCBs	TB-1 to TB-6	
		Groundwater	Fuel Oil, Kerosene, Gasoline, Lub. Oil, Diesel Fuel, PCBs	TB-1 to TB-6	
			TCL VOC by 8240, TCL SVOC by 8270, Cyanide, 24 Total Metals, Pesticides	TB-2, TB-4	TCL VOCs and SVOCs not detected at quantification limit
Additional Investigations Associated with Delineation of Clay Tile Pipe	July, 1990	Groundwater	23 Metals Total/Dissolved PCB, Cyanide, SVOC by 8270, Pesticides, VOC by 8240	TP-F, TP-E, MW-1, TB-2	SVOCs and VOCs not detected
		Soil/Fill	EP TOX Metals, PCBs	TP-E, TP-F, TP-2 (re-excavated)	TP-2 not analyzed for PCBs

Notes:
1. Data from samples collected after 1990 limited to PCBs, EP TOX Lead, TCLP Lead, and Total Lead. Results not depicted by this table.
2. Refer to Wehran report "Response to NYSDEC letter of June 29, 1989" dated October, 1989 for a summary of the above data and Wehran report "Additional Investigations Associated with Delineation of Clay Tile Pipe", dated July, 1990.
3. Abbreviations: TOX-Total Organic Halides; THO-Total Halogenated Organics; SVOC-Semi-Volatile Organic Compound; VOC-Volatile Organic Compound; EP TOX-Extraction Procedure Toxicity Test; Reac-Reactivity; Corr-Corrosivity; PCB-Polychlorinated Biphenyl.

concentration of 21 micrograms per liter in a water sample from test pit TP-8 (USEPA Method 601).

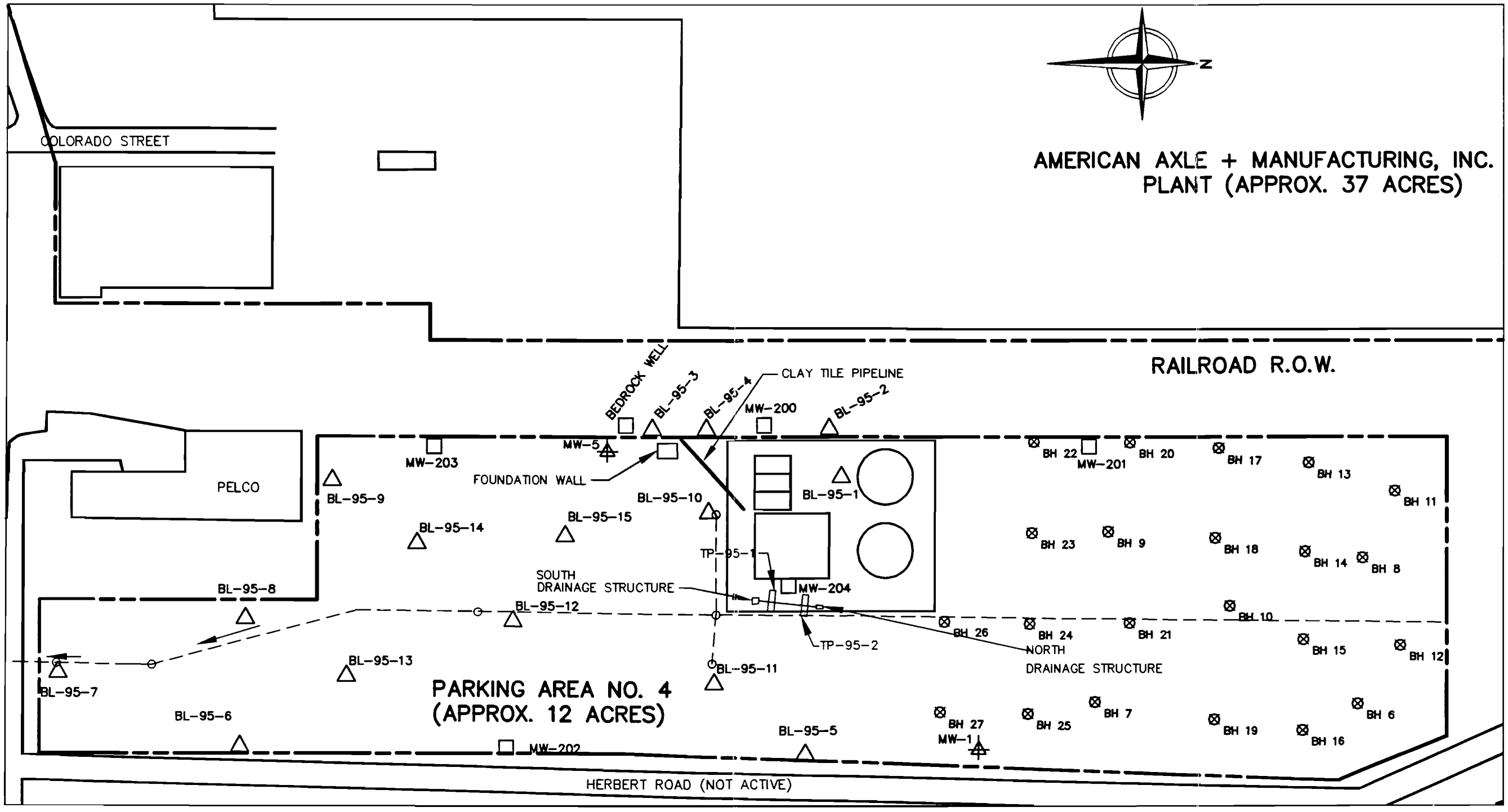
Metals (inorganics) were detected; however, the eight RCRA metals were detected at concentrations below the EP Toxicity hazardous waste threshold with the exception of lead. Lead exceeded the threshold value for testing completed in 1987, and 1993, but soil testing in 1988 and 1989 did not indicate lead levels above the EP Toxicity threshold value.

4.0 CONCLUSIONS

Based on the historical information and results of the most recent field investigation activities, the proposed boring locations presented in the work plan, dated June 1994 and revised November 1994, have been amended. In the work plan, 11 borings were proposed to be completed around the perimeter of Parking Lot #4 for evaluation of the lead deposition, with an additional ten borings located throughout the central portions of the site. As a result of the subsurface investigations completed in September and October 1994 (27 borings), there are sufficient data available to evaluate total lead concentrations in the fill in the northern one-third portion of Parking Lot #4. Therefore, with the exception of installation of one groundwater monitoring well (MW-201) located north of the WWTP, all subsurface investigation will focus on the southern two-thirds portion of Parking Lot #4.

Figure 4-1 shows the locations of all borings, wells, and test pits proposed for the investigation, as well as the locations of borings installed in the September and October 1994 investigations (BH-6 through BH-27). Borings BL-95-1 through BL-95-4 and BL-95-10, monitoring wells MW-200 and MW-204, and test pits TP-95-1 and TP-95-2 will be installed as part of the PCB investigation, but will also be used to collect samples for lead analysis. The remaining borings (BL-95-5 through BL-95-9 and BL-95-11 through BL-95-15) and monitoring wells (MW-201 through MW-203) will be installed and sampled specifically for lead. All borings and groundwater monitoring wells will be installed in accordance with Wehran's work plan dated June 1994 and revised November 1994.

Wehran will continue the site history investigation to evaluate the depositional history of the fill material. To assist in this effort, a historical specialist from Western New York has been retained to assist in this matter. Any additional site history information will be included with the site investigation report.



LEGEND:

MW-5 — MONITORING WELL INSTALLED BY EARTH DIMENSIONS, INC. IN 1989. DRILLING ACTIVITIES MONITORED BY WEHRAN-NEW YORK, INC.

BL-94-1 — PROPOSED TEST BORING LOCATION

MW-203 — PROPOSED MONITORING WELL LOCATION

TP-95-1 — PROPOSED TEST PIT LOCATION

120 0 120

APPROXIMATE SCALE IN FEET

Wehran EMCON Northeast

DATE 2/14/95
DWN. DJM
APPR. ____
REVIS. ____
PROJECT NO. 04853

FIGURE 4-1
GENERAL MOTORS CORP.
SAGINAW DIVISION
CITY OF BUFFALO, ERIE COUNTY, N.Y.
SITE EXPLORATION PLAN

F:\DWG\04853\GI029501.DWG

APPENDIX A

TITLE SEARCH

No. E0643

ABSTRACT OF TITLE

MADE BY

MONROE TITLE

INSURANCE CORPORATION

130 PEARL STREET
BUFFALO, NEW YORK 14202-4068
TELEPHONE (716) 852-0737
FAX (716) 852-9872

MONROE TITLE INSURANCE CORPORATION

- *TITLE INSURANCE*
- *ABSTRACTS OF TITLE*
- *GUARANTEED TAX SEARCHES*
- *FEDERAL COURT SEARCHES*
- *UCC FINANCING SEARCHES*
- *FRANCHISE TAX SEARCHES*

COMPLETE RECORD SEARCH

Search No. J0643

Certificate of complete record search against:

PARCEL "A"

ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot No. 53, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

BEGINNING at a point in the east line of lands of the New York Lake Erie and Western Railroad Co., about 825 feet south of the south line of Delavan Avenue and where said east line of the Erie Railroad lands intersect the south line of land conveyed by Jesse Ketchum and wife to Jacob Wolffer Jr. by deed dated December 26 1845 and recorded in Erie County Clerk's Office in Liber 80 of Deeds at page 521, December 26 1845; running thence east in a line parallel with Delavan Avenue and along said Wolffer's southerly line about 378.86 feet to a point in the west line of a private Right of Way known as Kilhoffer Street; running thence south and along west line of said Kilhoffer Street about 477.45 feet to a point in the north line of Northland Avenue; thence west along said north line of Northland Avenue, about 376.12 feet to the east line of the Erie Railroad lands; thence north and along the east line of said Railroad lands about 474.39 feet to the place of beginning, containing 4.12 acres more or less.

PARCEL "B"

ALSO ALL THAT TRACT OR PARCEL OF LAND situate in the City of Buffalo, County of Erie and State of New York, being part of Lot No. 53, Township 11, Range 8 of the Holland Land Company's Survey, bounded and described as follows:

THE northerly one-half of former Northland Avenue located between the east line of the lands of the Erie Lackawanna Railroad Company and the west line of a private right of way known as Kilhoffer Street on the east, containing .285 of an acre of land more or less.

FROM DECEMBER 28 1922 AT 8:59 AM TO DATE

	Frank V. E. Bardol and Katherine M. his wife	Warranty Deed
1.	To	Dated December 28 1922 Acknowledged December 28 1922 Recorded December 29 1922 in
	Bardol Company, Inc.	Liber 1631 of Deeds at page 246
	(No search against grantors)	Consideration $1.00

Conveys premises et al. Subject to mortgage $40,000.00 which second party assumes and agrees to pay. (S mortgage recorded in Liber 1653 of Mortgages at page 594, sin discharged.)

	In the Matter	Certificate of Incorporation
2.	Of	Dated December 26 1922 Acknowledged December 26 1922
	Bardol Company, Inc.	Recorded December 28 1922 in
		Liber 55 of Certificate of Incorporation at page 329

	Bardol Company Inc.	Warranty Deed
3.	To	Dated May 1 1947 Acknowledged May 1 1947
	Buffalo Gravel Corporation, Inc.	Recorded July 18 1947 in
		Liber 4150 of Deeds at page 275
		Consideration $16,000.00

Conveys Parcel "A" et al.

	Buffalo Gravel Corporation	Warranty Deed
4.	To	Dated April 8 1953 Acknowledged April 8 1953
	Buffalo Gravel Corporation	Recorded April 9 1953 in
		Liber 5301 of Deeds at page 361
		Consideration $1.00 and more

Conveys Parcel "A" et al. Recites being in Range Reserving to the seller, its successors and assigns forever, t full and free right of way sufficient for the construction a use as a railroad switch and/or sidings from the Delawa Lackawanna & Western Railroad over a strip of land adjoining a along the easterly boundary of the lands herein conveyed and/

from the New York Lake Erie & Western Railroads over a strip land adjoining and along the westerly boundary of the lan herein conveyed. The seller grants and conveys to the purchase its successors or assigns an easement or right of way at a times over and along a 50 foot right of way known as Kilhoff Street extending between Delavan Avenue and Scajaquada Stree Recites being the "First Parcel" heretofore conveyed to t seller by Bardol Company, Inc. by deed dated May 1 1947 a recorded in Erie County Clerk's Office on July 18 1947 in Lib 4150 of Deeds at page 275.

	Bardol Company, Inc.	Quit Claim Deed
5.	To	Dated May 19 1965 Acknowledged May 19 1965
	Buffalo Gravel Corporation	Recorded May 25 1965 at 10:45 AM Liber 7112 of Deeds at page 15 Consideration $1.00 and no more

Conveys Parcel "B". Recites being in Range 7.

	Buffalo Gravel Corporation	Warranty Deed
6.	To	Dated May 21 1965 Acknowledged May 21 1965
	General Motors Corporation	Recorded May 25 1965 in Liber 7112 of Deeds at page 29 Consideration $1.00 and no more

Conveys the following described premises: City Buffalo, County of Erie and State of New York, being part of L No. 53, Township 11, Range 7 of the Holland Land Company Survey, bounded and described as follows:

Beginning at a point in the east right of way line the former Erie Railroad Company, now the Erie-Lackawar Railroad, 425.27 feet south of its intersection with the sou line of East Delavan Avenue; thence north 89° 17' 30" ea parallel with the south line of East Delavan Avenue and along t south line of land conveyed to the Arber Corporation by de recorded in the Erie County Clerk's Office in Liber 4903 of Dee at page 472, 330.19 feet to its intersection with the southwe line of a private right of way, 50 feet wide, said intersecti

being 456 feet southeast of the intersection of the southwes line of said private right of way with the south line of Eas Delavan Avenue; thence south 21° 55' 36" east along the southwes line of said private right of way 128.26 feet to an angle point thence south 1° 18' west along the west line of said privat right of way 758.30 feet to its intersection with the north lir of former Northland Avenue; thence south 1° 18' 58" west along line forming an angle of 88° 31' 02" in the southwest quadrar with the north line of former Northland Avenue, 33.01 feet to it intersection with the center line of former Northland Avenue thence south 89° 50' west along the center line of forme Northland Avenue, 375.94 feet to its intersection with the eas right of way line of the former Erie Railroad Company, now th Erie-Lackawanna Railroad; thence north 1° 00' east along the eas right of way line 907.24 feet to the point of beginning.

Together with the non exclusive easement and right o way at all times over and along the 50 foot private right of wa known as Kilhoffer Street extending between East Delavan Avenu and Scajaquada Creek adjoining on the east.

Subject to the full and free right of way for railroa side track purposes reserved by Arber Corporation in dee recorded in Liber 7111 of Deeds at page 49.

Together with and including all right, title ar interest of the grantor, if any, in and to all strips and gore of lands adjoining the above described premises including but no limited to, lands in the bed of vacated Northland Avenue.

This deed is intended and delivered for the purpose o insuring that the grantor has conveyed all right, title ar interest which it may have in and to all property in the vicinit of the premises conveyed to it by the grantee by Warranty Deed o concurrent date herewith.

Buffalo Gravel Corporation		Warranty Deed
7.	To	Dated May 21 1965 Acknowledged May 21 1965
General Motors Corporation		Recorded May 25 1965 at 11:11 AM
(No search against this grantee)		Liber 7112 of Deeds at page 49 Consideration $1.00 and more

Conveys Parcel "A" et al. Also all the right, tit and interest of the grantor, if any, in and to Parcel "B' Parcel "B" recites being in Range 7.

Dated May 25 1965

At '11:11' AM

MONROE TITLE INSURANCE CORPORATION

By _____
Vice President

JA-RC/dor

MONROE TITLE INSURANCE CORPORATION

MONROE BUILDING, ONE HUNDRED THIRTY PEARL STREET
BUFFALO, NEW YORK 14202 • PHONE 852-0737

PARCEL	DIST.	FEET FRONT	FEET DEEP	LINE	NAME OF STREET	SIDE OF STREET	FEET	COURSE	STREET MEASURED FROM

MONROE TITLE INSURANCE CORPORATION, *a corporation duly incorporated and existing under the laws of the State of New York, for a valuable consideration to it paid, hereby guarantees and warrants, that there are no STATE TAX SALES, CITY and COUNTY TAXES, TAX SALES, or LOCAL ASSESSMENTS now payable, affecting the above described REAL ESTATE, except as follows:*

[NO SEARCH IS MADE FOR OCCUPANCY TAX]
BUFFALO SEWER AUTHORITY SEWER RENTS WITH WATER BILLS ARE NOT COVERED BY THIS SEARCH

MONROE TITLE INSURANCE CORPORATION

SEC. BLK LOT ______

By ....
Assistant Vice-President
Assistant Secretary

DATE OF SALE	FOR WHAT TAX OR TAX SALE	NO. OF TAX OR SCRIP	PURCHASER OR ASSIGNEE	DESCRIPTION OF LAND	AMOUNT OF TAX OR SALE		REMARKS
				[illegible] CORPORATION			

APPENDIX B

ANALYTICAL TEST RESULTS

"HOT SPOT" REMEDIATION

Wehran-Emcon

GM Lead Sampling
Project No.: 04428.LS

Quality Control Report

Volume 1 of 2

Sample Collected 11/10/94

Prepared for: Wehran-Emcon
1775 Baseline Rd.
Suite 220
Grand Island, New York 14072-1601

Prepared by: Upstate Laboratories, Inc.
6034 Corporate Drive
East Syracuse, New York 13057

Lab Code 10170

Sample Data Summary Package

Upstate Laboratories, Inc.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		VOA GC/MS Method #	BNA GC/MS Method #	VOA GC Method #	Pest PCBs Method #	Metals	Other
BH–9E	31594068	–	–	–	–	CLP 91	% solids
BH–9N	31594067	–	–	–	–	CLP 91	% solids
BH–9S	31594069	–	–	–	–	CLP 91	% solids
BH–9W	31594070	–	–	–	–	CLP 91	% solids
BH–17E	31594076	–	–	–	–	CLP 91	% solids
BH–17N	31594075	–	–	–	–	CLP 91	% solids
BH–17S	31594077	–	–	–	–	CLP 91	% solids
BH–17W	31594078	–	–	–	–	CLP 91	% solids

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Parameters Requested	Date Rec'd at Lab	Date Analyzed
31594067	Soil	Pb	11/10/94	11/28/94
31594068	Soil	Pb	11/10/94	11/28/94
31594069	Soil	Pb	11/10/94	11/28/94
31594070	Soil	Pb	11/10/94	11/28/94
31594075	Soil	Pb	11/10/94	11/28/94
31594076	Soil	Pb	11/10/94	11/28/94
31594077	Soil	Pb	11/10/94	11/28/94
31594078	Soil	Pb	11/10/94	11/28/94

Narrative

1.0 Summary

This report presents the laboratory test results for eight soil samples which were collected from various sites at Grand Island, New York. The samples were analyzed for Total Lead.

2.0 Chain of Custody

The samples were collected by Wehran Emcon on November 10, 1994 and hand delivered to Upstate Laboratories, Inc., Syracuse, New York. The Chain of Custody documentation is copied in Volume 2.

3.0 Methodology

The analyses were performed using test methods developed by the U.S. Environmental Protection Agency (EPA) and reorganized by NYSDEC into Analytical Service Protocol (ASP). The specific method numbers are:

Parameter	Method 1)
Pb	CLP-91

1) NYSDEC ASP, September, 12-91, Revision

4.0 Internal Validation

The following observations are offered.

Holding Time : All criteria were satisfied following the NYSDEC ASP, revision 1991.

Inorganics:

ICP analysis : All criteria were satisfied.

Approved _____

Anthony J. Scala, Director

Sample Data

Upstate Laboratories, Inc.

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BH-9E

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594068

Level (low/med): LOW Date Received: 11/10/94

% Solids: 63.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	715		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

lor Before: BROWN Clarity Before: OPAQUE Texture: COARSE

lor After: YELLOW Clarity After: CLOUDY Artifacts: YES

mments:
STONES, PEBBLES

FORM I - IN

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BH-9N

Name: Upstate Laboratories, Inc Contract:

Code: 10170 Case No.: SAS No.: SDG No.: WEH002

rix (soil/water): SOIL Lab Sample ID: 31594067

el (low/med): LOW Date Received: 11/10/94

olids: 62.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	1560		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Before: BROWN Clarity Before: OPAQUE Texture: COARSE

After: YELLOW Clarity After: CLOUDY Artifacts: YES

rts:
ONES, PEBBLES

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BH-9S

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594069

Level (low/med): LOW Date Received: 11/10/94

% Solids: 64.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	765		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLOUDY Artifacts: YES

Comments:
STONES, PEBBLES

FORM I - IN

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BH-9W

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594070

Level (low/med): LOW Date Received: 11/10/94

% Solids: 62.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	1200		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLOUDY Artifacts: YES

Comments:
STONES, PEBBLES

FORM I - IN

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BH-17E

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594076

Level (low/med): LOW Date Received: 11/10/94

% Solids: 62.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	354		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLOUDY Artifacts: YES

Comments:
STONES, PEBBLES

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BH-17N

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594075

Level (low/med): LOW Date Received: 11/10/94

% Solids: 67.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	949		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLOUDY Artifacts: YES

Comments:
STONES, PEBBLES

FORM I - IN

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

BH-17S

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594077

Level (low/med): LOW Date Received: 11/10/94

% Solids: 61.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	1670		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLOUDY Artifacts: YES

Comments:
STONES, PEBBLES

FORM I - IN

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1

INORGANIC ANALYSIS DATA SHEET

BH-17W

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Lab Sample ID: 31594078

Level (low/med): LOW Date Received: 11/10/94

% Solids: 62.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	4330		*	P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: BROWN Clarity Before: OPAQUE Texture: COARSE

Color After: YELLOW Clarity After: CLOUDY Artifacts: YES

Comments:
STONES, PEBBLES

FORM I - IN

Quality Control Data

Upstate Laboratories, Inc.

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

BH-17SD

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 61.0 % Solids for Duplicate: 61.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead		1670.7318		2347.9960		33.7	*	P
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								
Cyanide								

ENVIROFORMS/INORGANIC CLP

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

BH-17SS

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): SOIL Level (low/med): LOW

% Solids for Sample: 61.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead		2372.4620		1670.7318		163.89	428.2		P
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	1.0	U	1.0	U	2.2	B	1.5	B	-1.835	B	P
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

ENVIROFORMS/INORGANIC CLP

1

INORGANIC ANALYSIS DATA SHEET

SAMPLE NO.

PBS

Lab Name: Upstate Laboratories, Inc Contract:

Lab Code: 10170 Case No.: SAS No.: SDG No.: WEH002

Matrix (soil/water): WATER Lab Sample ID: PBS

Level (low/med): LOW Date Received: 11/24/94

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic				
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead	1.0	U		P
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-0	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				

Color Before: COLORLESS Clarity Before: CLEAR Texture:

Color After: COLORLESS Clarity After: CLEAR Artifacts:

Comments: