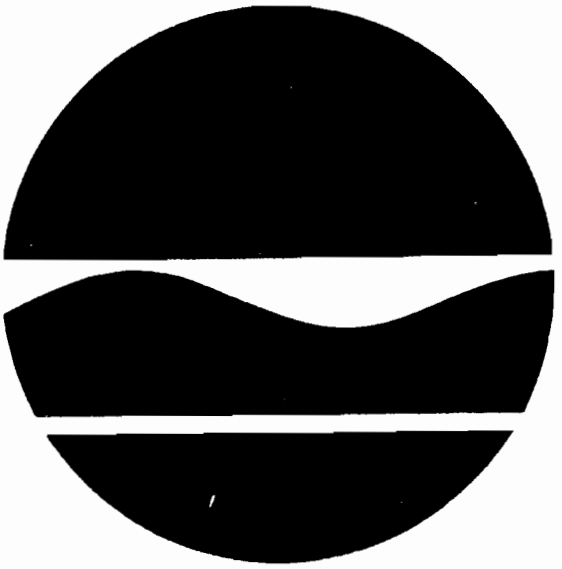
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

MARCON ERECTORS SITE
SITE NUMBER 915173
BUFFALO(C), ERIE COUNTY

REPORT ON ACTIVITIES
IMMEDIATE INVESTIGATIVE WORK ASSIGNMENT (IIWA)
WORK ASSIGNMENT #D003821-23



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New York State Department of Environmental Conservation
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1.0 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) requested the services of a standby contractor to implement an Immediate Investigative Work Assignment (IIWA) at the Marcon Erectors Site, Site #915173. Requirements of the IIWA were documented in an Immediate Investigative Work Assignment Work Plan dated June 2001(Appendix 1). A Notice to Proceed was issued on June 29, 2001 to Earth Tech Environmental and Infrastructure Inc. (Earth Tech), a NYSDEC Standby Work Assignment Contractor (SWAC), to complete the items included in the work plan under NYSDEC standby contract #D003821-23.

The IIWA project examined areas of concern on and proximate to the Marcon Erectors site. The IIWA gathered information about the overall effectiveness of the emergency removal of PCB contaminated tanks and soil, completed in January 2001. Primarily, the IIWA was implemented to determine if residual PCB-related contamination exists at the site. Additionally, local groundwater was sampled to determine if it was impacted by the PCB release. Secondary issues of the IIWA were to obtain information about the nature and extent of contamination concerning former petroleum products handling.

A site walkover was completed by the Earth Tech Project Manager and NYSDEC as required on July 18, 2001. A site survey was initiated on July 17, 2001. Direct push, soil boring work was initiated on August 20, 2001 and monitoring well installation began on August 23, 2001. Site work concluded with the disposal of investigation derived waste on October 30, 2001 and the IIWA was deemed complete with the submittal of the final letter report by Earth Tech on November 8, 2001(Appendix 2).

1.1 SITE DESCRIPTION

Located in a mixed residential, commercial and industrial area, Marcon Erectors is a small manufacturer of

reconditioned windows and doors (see Figure 1). Residential areas are to the north, while directly south is a frequently used, recreational pathway. Approximately 625 feet to the west is a playground and just beyond that is an elementary school. East of the site is a supermarket constructed, in 1997, on a former multi-tenant, light industrial complex owned by Campus Industries. The supermarket was the culmination of cleanup efforts as part a voluntary agreement with the NYSDEC designated as 601 Amherst Street, NYSDEC site number V00084-9.

The Marcon Erectors Site, Site #915173 is a fenced property 0.85 acre in size (see Figure 2). The subject property is mostly improved, consisting of a split level brick, frame and block building, a small, brick, former pump house and a concrete tank containment area. The main structure on the site is an older building, in fair condition and suitable for its current use. After a removal action by the NYSDEC in January 2001[1], the containment structure, is no longer in use. The bottom of the containment area is soil and the walls of the containment structure are compromised, as noted by the presence of several cracks. Several piles of old window frames resulting from the site operations are along the containment area and by the former pump house. There is gravel access and parking. The site has limited vegetation and a few trees. The entire site is enclosed with a chain link fence, mostly secure and has limited access.

The nearest surface water is the Scajaquada Creek that lies 500 feet to the south of the Marcon Erectors site. The Black Rock Channel is approximate 2000 feet to the west. A localized groundwater trend is anticipated to be to the south/southwest but many localized influences such as sewers, utility laterals, etc... exist. Petroleum contamination exists on the property as evidenced by test pitting during the January 2001 removal action.

1.2 ENVIRONMENTAL SITE HISTORY

[1] New York State Department of Environmental Conservation, 2001, Report on Activities, Emergency Removal Action, Removal Action #9098 HAZ.

On September 28, 1995, NYSDEC became aware of potential problems at the Marcon Erectors site through an anonymous oil spill report. Fuel blending operations allegedly before Marcon's purchase of the property had resulted in residual sludge in three above ground storage tanks (ASTs) within a concrete containment area. Two of the tanks were horizontal 10,000 gallon tanks with large openings cut into one end of each tank and the third was a 25,000 gallon tank that had been cut down to approximately 2 feet high.

In September 1997 a removal contractor was hired by the current owner to remove and dispose of the remaining materials and sludge from the three ASTs. The contractor, to facilitate removal by vacuum truck, slurried the sludge with water. This slurried material was transferred to lined, rolloff boxes and mixed with sawdust to reduce the water content in an attempt to attain disposal requirements. Originally reported as oil sludge and residuals, sampling for disposal determined the sludge was contaminated with semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs) and polychlorinated biphenyls (PCBs). The presence of PCBs in the sludge constituted a hazardous waste and because of the improper handling of these hazardous wastes the contractor was ordered to stop work before finishing the removal action. Improper handling of waste resulted in a NYSDEC enforcement action.

On April 2, 1998, a limited sampling effort at the site by the NYSDEC Division of Environmental Remediation confirmed the presence of PCB contamination at the property. The site was listed on the Registry of Inactive Hazardous Waste Sites as a Class 2 site on June 7, 1999. NYSDEC sampling of the sludge material indicated Arochlor 1248 as high as 260 mg/Kg (parts per million (ppm)). Oil, in the tank bottom had PCB results as high as 122 ppm. Soils surrounding the cut off tank indicated PCB results as high as 280 ppm.

In January 2001, NYSDEC, to prevent further detriment to the environment and to mitigate potential for exposure, hired a contractor to complete the removal of the exposed sludge and contamination. The removal action consisted of demolition of the northern wall of the containment structure to allow equipment access, removal of the tanks, and removal of contaminated soils. All tank shells were decontaminated and recycled. All hazardous soils and all non-hazardous soils were properly disposed. Excavation was suspended when PCBs were less than 10 parts per

million. Details of the removal action are detailed in a separate report entitled "Marcon Erectors Site, Site #915173, Report on Activities, Emergency Removal Action #9098 Haz." dated June 2001, authored by NYSDEC.

1.3 SITE GEOLOGY

Buehler and Tesmer[2] in their report on "Geology of Erie County" describe the bedrock that underlies the subject area as Upper Silurian Dolomite and dolomite shales of the Akron Dolomite and Bertie Group (Figure 3). URS, as part of the "Report on Activities, Immediate Investigative Work Assignment (IIWA), Chemcore-Buffalo Site, Site Number 915176, August 1999, NYSDEC" note that this Akron dolomite is underlain with the Bertie Group that, locally, consists of dark grey shale and dolostone beds of variable thicknesses. The Chemcore site is about one-half mile to the southwest of the Marcon Erectors site at 1382 Niagara Street. At the Chemcore site the bedrock was 12 feet below ground surface. All of the borings terminated no deeper than 26 feet below ground surface at the Marcon Erectors site. Bedrock was not encountered nor anticipated to be encountered at this depth at Marcon Erectors.

At the Marcon Erectors site, boring logs (Appendix 3) show that the bedrock is covered by fill at differing depths, lacustrine silts and sediments. The fill material is varied, but mainly consists of gravels, ashes and sand, mingled with other debris such as brick, wood, metal and porcelain. The boring logs combine sand and ash material into a single term "furnace debris." The fill material at the Marcon Erectors site overlies a silty clay material that is hard and reddish brown in color. This silt contains small bits of intermixed gravel in varying quantities and is lacustrine or glacio-lacustrine. This material is tight and dry and varies in depth below ground surface. To the north of the Marcon Erectors site this silty-clay material is close to the surface (three or four feet) as noted in soil Boring SB-3 and SB-6. The material dips generally to the south but plunges rapidly to more than 16 feet deep within fifty feet of the property. Beyond this, southward, toward the Scadjaquada Creek the silty-clay is overlain by large amounts

[2] Buehler, Edward J. and Tesmer, Irving H., 1961 Geology of Erie County, New York, Buffalo Society of Natural Sciences Bulletin, Volume 21, Number 3

of fill material.

2.0 TASK OBJECTIVES

The primary focus of the IIWA project was to determine if hazardous waste containing PCBs had impacted the area soils and/or groundwater surrounding the Marcon Erectors Site. Therefore, a major portion of this focus was to determine the nature and extent of contamination proximate to the Marcon Erectors site.

Specific objectives of this IIWA project were to:

- Evaluate the existing subsurface soil and groundwater conditions on and proximate to the known contaminated areas and investigate the nature and degree of any identified contamination within this area.
- Determine if underground storage tank(s) exist and if existing, determine the contents and volume of contents of the tank(s).
- Define and evaluate any potential migration pathways from the given contaminated area(s).
- Attempt to quantify the amount of contamination requiring remediation, if any.
- Affirm the area(s) of concern.
- To determine offsite impacts of contaminant migration.
- Identify any possible Interim Remedial Measure(s) (IRM) that may be needed to address specific problems recognized close to the source area during this IIWA project.

3.0 PROJECT SCOPE

The IIWA consisted of a General Site History Review, General Site Survey, Underground Storage Tank Investigation, Soil Boring Program Groundwater, Monitoring Well Installation, Soil Sampling Element and

Groundwater Sampling Element. On July 17, 2001, a site walkover by Earth Tech with the NYSDEC Project Manager was completed to discuss pertinent items of the work. Property access was completed by the NYSDEC with Earth Tech and their subcontractors designated as agents for the State.

Earth Tech obtained the services of EDR Resources (EDR) to complete a history review of the site conforming to ASTM standards for this type of work. To complete the general site survey requirements Earth Tech contracted the services of Deborah A. Naybor PLS, PC. To determine if underground storage tanks and/or transfer pipes existed on the property or proximate to the property, Hager-Richter (H-R), an Earth Tech sub-contractor, completed an Electro-Magnetic survey (EM-61) of the Marcon Erectors Site. Intrusive soil work, which included installing and developing five - 2" groundwater monitoring wells and completing 21 soil borings by direct push methods, was completed by Earth Tech and their subcontractor, Buffalo Drilling. From the intrusive soil work the NYSDEC collected eighty-three soil samples. Finally, the groundwater was sampled by the NYSDEC after Buffalo Drilling developed the monitoring wells.

All sample bottles, sample collection and laboratory analysis were provided by NYSDEC utilizing a standby laboratory (Lozier/Express Labs. Inc.). All data interpretations associated with this program (and its elements) were conducted using NYSDEC equipment and staff unless otherwise specified.

Upon completion of the assignment Earth Tech submitted a brief letter report to the NYSDEC (Appendix 2) which details their involvement with the project and deliverables which were required by the contract. Copies of deliverables including sampling results, boring logs etc... are included as appendices to this report.

3.1 GENERAL SITE HISTORY REVIEW

Earth Tech and their subcontractor EDR completed a historical review of pertinent documents of historical record

to determine the past uses of the Marcon Erectors property. Items of historical significance as relating to this property included Sanborn Maps™, aerial photos, and historical topographic maps from references, such as, historical city directories and recorded instruments of property transfer. This review, in addition to information gathered by the NYSDEC, throughout the entire Marcon Erectors project, is included in the following section.

Historical records at the Buffalo and Erie County Historical Society were reviewed by NYSDEC and included with information from Sanborn™ Fire Insurance Maps and city directories provided by EDR. (Appendix 4). This research yielded information on the target site as far back as 1894. In 1894 the property was identified as the American Buffalo Robe, Robe Factory and the facility remained a garment manufacturer until at least 1915. The record is unclear from 1917-1931 but the facility appeared to have changed course in 1931 when city directories cited the property as the Cities Services Oil Company gas station. For a brief period, 1931 to 1935, the site was listed as Crew, Levick Co. Oils, oil distributors. From 1936, until around 1956, the property was listed as the Terminal Petroleum Co. and was noted as a petroleum distributor. Polk's City Directory lists the property as the Frontier Oil Refinery, Bronco Solvents and Chemicals Division. By 1965 the name had changed to the Ashland Oil Refinery, Solvents and Chemicals Division. In 1971, the property was listed as the Ashland Oil Refinery, Valvoline Oil Division. As early as 1972 the site was occupied by B. Hoffman Roofers. In 1976, the site was listed as B. Hoffman Roofers and Niagara Constructors. In 1981, the site included B. Hoffman Roofers, and D. Weigel Studio. Finally, it is known that the facility was obtained and has been occupied since 1982 by the current owner Marcon Erectors which details its business as the re-manufacture of windows and doors.

Real Estate Research and Information Inc. provided EDR with a historical chain of title report for the current property legal description: "All that piece or parcel of land being further bound and described in the attached vesting deed, lying and situate in the County of Erie, State of New York." Assessor's Parcel No: 88.36-2-2. In the Historical Chain of Title Ashland Oil Inc. is noted to have acquired title to the property prior to 1940. It further notes a deed recorded on May 5, 1971 listing the Grantor as Ashland Oil, Inc. and the Grantee as B. Hoffman Roofers, Inc. Finally a warranty deed was recorded October 29, 1980 listing the Grantor as B. Hoffman Roofers, Inc. and the

Grantee as Douglas Giambrone, the current owner.

EDR submitted a historical topographic map report for the Marcon Erectors site. Topographic maps were provided for the years, 1946, 1948, 1950, and 1965. A comparison was made of the maps to detail changes to the surrounding land features. From 1946 until 1950 there was little change in the topography. From 1950 to 1965 there is the addition of the Scajaquada Expressway along the southern shore of the creek. The expressway has a ramp at Grant Street and at Elmwood Avenue. The Scajaquada Creek, in 1950, was presented as wider and was bottlenecked, underground, at Grant Street. The 1965 topographic map shows the creek as much narrower from Elmwood to Grant Street. Additionally, in 1965, the Scajaquada is no longer underground at Grant Street, but is a single, narrow channel to the Black Rock Channel. Although telling it from the topographic maps is impossible, it appears that the northern bank of the Scajaquada may have received fills from the construction of the expressway and the ramps.

Aerial photographs of the site were provided by EDR for the years 1959, 1966, 1978, 1983 and 1995. These photos were supplemented by aerial photos from the Erie County Government web site for the years 1927 and 1951 (see Appendix 4).

Overall, the aerial photography showed consistent growth of a petroleum-based operation until 1978, as was detailed by historical record. There were changes with the changing uses of the property especially with the number of tanks on the site. The physical structure changes little over the years except an addition to the southeast and to the northwest of the facility. The physical surrounding has changed dramatically throughout the last 100 years. Most notable changes were the filling of the Scajaquada Creek, including the installation of the water control weir directly south of the site, the construction of the Scajaquada Expressway and the additional construction of Buffalo State College. Physical access to the property changed little as Howell Street has been the major road to the site. Rail access to the site was eventually lost and the rail bridge over ~~the~~ Scajaquada Creek was removed. Descriptions of the individual photographs are detailed in the following paragraphs.

The 1927 photograph shows a large tank visible to the southeast of the building where the large vertical tank is known to have been. The railway to the north of the facility is active. The surrounding area is largely urban with some industry. To the south across the Scajaquada there are farmed fields and the Buffalo State Hospital for the Insane is present.

In 1951 numerous tanks are visible on the property. Three tanks are noted between the building and the southern property line. At least six tanks are present in the current containment area behind the facility. One of these tanks is a large vertical tank and there are five horizontal tanks. Additionally, a horizontal structure, or tank and at least five smaller vertical tanks are situated north of the current containment area. In the general area surrounding the site the railroad bridge is still present but the rail line close to the site seems inactive.

The 1959 photograph revealed six horizontal tanks and one large vertical tank within the current containment area. The tanks previously noted to the northeast of the site are not discernable. There is evidence of filling activities to the south of the property. The Scajaquada Expressway has been started and the former railroad bridge has been removed. A coffer dam has been constructed and the current weir has been placed in the creek directly south of the site.

In 1966, within the current containment area, six horizontal tanks and one large vertical tank are visible. A seventh horizontal tank is lying north-south and located outside and to the north of the containment area. Three distinct tanks and possibly up to four more are directly south of the building. Also, apparent and distinct are five small tanks to the north west of the building. All the tanks appear to have been recently painted and are highly visible. The Scajaquada Expressway has been completed and there has been extensive construction at the Buffalo State College. The creek has been extensively filled along the north bank of the creek south of the subject site.

The 1978 aerial photo is of lesser quality, but of interest is the addition to the building in the northeast area where the small tanks were noted in 1966. The horizontal tanks are hard to discern but the large vertical tank is visible. It

is not possible from the photo in 1978 to determine if the tanks located on the southern part of the property are present.

In 1983 a high quality photo was taken. There are two horizontal tanks visible in the containment area and the vertical tank is still present. A noticeable darkness to the top of the vertical tank may suggest the tank having been cut down. There are objects to the south of the facility but it is not possible to tell whether these are tanks or just operational equipment or materials. There is little change from the previous photo as far as the surrounding area.

The photograph from 1995 is of poor quality but it is noted that only the two horizontal tanks and, the now cut down, vertical, tank are present within the containment area. The surrounding area has changed little since 1983 except expected growth.

3.2 GENERAL SITE SURVEY

Five days prior to the start of the intrusive work, Earth Tech arranged for delineation of all underground utilities. Earth Tech obtained the services of a New York State Department of Education licensed professional land surveyor, Deborah A. Naybor, PLS, P.C. to provide a survey of the Marcon Erectors property and adjacent properties. The Marcon property survey was completed with building structures and utilities. The survey included a staked or pinned 50' by 50' grid outside the property boundaries (see Figure 4.) Within the fenced areas of the property the grid spacing was reduced to 25' by 25'. The survey included surface contours and elevations to the nearest 10^{th} of a foot and included any significant contour changes and features. Additionally, each of the five monitoring wells was surveyed for location, ground elevation and top of riser elevation to the nearest 10^{th} of an inch. Deliverables for this portion of the work included a final completed property and contour map with the above information stamped by a licenced PLS, an electronic copy of the maps, raw data used in compilation of the map and field notes. All items required for the deliverable are included as Appendix 5.

3.3 UNDERGROUND STORAGE TANK INVESTIGATION

A previous investigation of the basement of the facility by NYSDEC did not indicate the presence of storage tanks remaining in the facility. However, it is noted that remnants of transfer lines extend into the basement and alongside the building. Because remnants of the transfer lines exist and anecdotal speculation of storage tank(s) located on the property, Earth Tech was tasked to complete a geophysical survey of the subject site. Earth Tech, in turn, obtained the services of Hager-Richter Geoscience, Inc. (H-R) to perform a geophysical survey using time domain, electromagnetic induction, metal detection. A Geonics EM-61 metal detector with 3 foot line spacing was utilized to determine if underground tanks existed on the property. A deliverable for this work assignment item was a discussion and interpretation of geophysical data by Hager-Richter and is attached as Appendix 6. Raw data collected is presented in figure 3 of the H-R report. The data is presented in this figure such that yellow colors to red indicate a magnetic detection. Figure 4 of the report is a graphic interpretation of this data.

The H-R report did not indicate the presence of buried underground storage tanks. The graphic interpretation shows interference from objects such as fences, a metal rolloff and a trailer. Causes of the interferences are piles of metal window frames and doors located to the west of the containment area and west of the shed. The report indicates the piles as debris. Scattered areas of possible buried metal exist. Most noted are two larger areas, one north and center of the facility and one area, south and center of the building. However, the report noted that all areas of buried metal are small areas less than ten feet in diameter. The report also notes the presence of "utilities." Since most of the services such as gas, water and sewer enter the facility at the front of the building it is unlikely that underground utilities exist on the property. NYSDEC, 2001[3] did show buried transfer lines that may have contained or do contain petroleum products during test pitting in January 2001. However, the limited test pitting did correlate the H-R report by revealing buried items such as metal pails and old oil delivery cans to the north of the containment facility.

[3] New York State Department of Environmental Conservation, 2001, Report on Activities, Emergency Removal Action, Removal Action #9098 HAZ

3.4 SOIL BORING PROGRAM

As required by the IIWA work plan Earth Tech had their sub-contractor, Buffalo Drilling, install 21 soil borings (see Figure 5) by direct push methods equivalent to a Geoprobe®. Depth of the borings varied 15 to 24 feet in depth as determined by type of soil material and the presence or lack of physical evidence of contamination. All borings were visually scrutinized and screened for volatile contamination with a flame ionization detector. Boring logs were completed by the SWAC geologist and are included in Appendix 3.

All equipment required to advance a direct push sampling core was provided by Buffalo Drilling. Difficult topography, with limited access, required an all-terrain probing device to complete two of the borings. For the remaining 19 probes a truck-mounted unit was appropriate.

All direct push borings were completed with acetate liners and appropriate sample collection apparatus to minimize cross zone interference. The extracted subsurface soil materials from the liners were exposed for sampling and geologic interpretation by the Earth Tech geologist. The Earth Tech geologist visually screened extracted subsurface soil materials for signs of obvious contamination and screened the soil for the presence of volatile organic chemicals (VOCs) with a calibrated flame ionization detector. All soils were described and logged with respect to their geologic character, features and properties. All, or some, of the subsurface soil interval extracted from a specific monitoring point were collected as a soil sample for chemical analysis, at the discretion of the NYSDEC.

After the subsurface soil materials from a particular interval were described/logged/screened and all soil samples had been collected for chemical analysis, the remaining soil materials were discarded at the direction/discretion of the NYSDEC representative. Any subsurface soil materials, which showed visual signs of contamination, caused a sustained response above the measured background response on a calibrated flame ionization screening instrument, or a combination of these situations, were retained for disposal.

All work involving the soil boring installation adhered to health and safety procedures for this type of work in accordance with the generic health and safety standards established by Earth Tech. Deliverables for this portion of the work included, but were not limited to, all boring logs, descriptions and all field notations.

3.5 GROUNDWATER MONITORING WELL INSTALLATION

A total of five (5) soil borings were completed as monitoring wells. One well was drilled upgradient of the subject property, three of the wells were completed downgradient of the property between Marcon Erectors and the Scajaquada Creek and the fifth well was drilled on the subject property. The exact locations of the wells were determined by the NYSDEC based upon results of the soil boring work (see Figure 6).

Groundwater monitoring wells were completed by Buffalo Drilling Inc. under the supervision of the Earth Tech geologist. All wells were installed by driving continuous split-spoon samplers in advance of 4.5 inch hollow stem augers and completed as flush-mounted wells. The depths of the wells were determined by information provided in the direct push soil borings and information from the split spoon cores. Because a suitable confining layer existed that did not show evidence of gross contamination, all wells were installed were completed into the local tight silty-clay unit as overburden wells. Bedrock was not encountered in any of the monitoring wells. The screened interval of the wells was placed to intercept groundwater and was dependent on the water table and stratigraphy. Monitoring wells were constructed using 2-inch ID threaded, flush-joint, Schedule 40 PVC, with fifteen feet lengths of 0.010-inch machine slotted well screens. The exact depth of each well is presented in the boring logs in Appendix 3.

All wells were developed by Buffalo Drilling utilizing a submersible centrifugal pump. All monitoring well installation and development generally followed the procedures described in the "New York State Department of Environmental Conservation, Superfund Standby Contract, Program Quality Assurance Project Plan, Contract no. D002472, April 1994, ABB Environmental Services." All wells were finished as flush mounted wells with 3' x 3'

protective pads, with lockable protective casings and covers. All boring logs were completed by the Earth Tech geologist. The logs, and also any field notes, were a deliverable quantity of the work assignment and are included in Appendix 3 and Appendix 9. Waste generated by the work which required disposal was containerized and disposed of in a proper manner by OpTech Environmental Services Company (OpTech) an Earth Tech subcontractor (see Appendix 7).

All work involving the monitoring well installation adhered to health and safety procedures for well installations in accordance with the generic health and safety standards established by Earth Tech.

3.6 SOIL SAMPLING ELEMENT

The extracted subsurface soil materials from the split spoon samplers and direct push acetate sleeves were described and logged with respect to their geologic character, features, and properties. After the soil was screened visually for signs of obvious contamination the materials were screened for the presence of volatile organic chemicals (VOCs) with a calibrated flame-ionization instrument. Some of the soil was collected for chemical analysis at the discretion of the NYSDEC representative. The number of subsurface soil samples collected for chemical analysis from any monitoring point was at the discretion of the NYSDEC representative based on:

a) Subsurface soil materials that exhibited visual signs of contamination;
b) Subsurface soil materials that caused a sustained response above the measured background response on the calibrated flame ionization screening instrument;
c) Predetermined sampling depth or;
d) A combination of these situations.

A total of 83 subsurface soil samples were collected for chemical analysis during this IIWA project. Of the 83

samples, 50 subsurface soil samples were collected from 21 direct push soil borings and 23 samples were collected from the five monitoring well borings.

After the subsurface soil materials from a particular interval had been described/logged/screened and all subsurface soil samples had been collected for chemical analysis (if applicable), the remaining subsurface soil materials were discarded or containerized for disposal at the direction/discretion of the NYSDEC representative. Subsurface soil materials exhibiting signs of contamination, or that caused a sustained response above the measured background response on a calibrated flame or photo-ionization screening instrument were containerized for disposal by OpTech.

3.7 GROUNDWATER SAMPLING ELEMENT

Groundwater samples were collected for chemical analysis from each of the five groundwater monitoring wells installed during this IIWA project to monitor the water quality within the overburden material. This sampling allowed for the collection of a representative groundwater sample from each of the five groundwater monitoring wells installed during this IIWA project. Before sample collection the static water level was measured in reference to a surveyed mark on the well. This measurement was recorded along with the time and date for future use in the generation of a groundwater map.

NYSDEC purged groundwater from the installed well with a small down hole centrifugal pump until the pH, specific conductivity, temperature, and turbidity of the extracted water had stabilized. All parameters measured during this process, as well as, time, date, and volume of water extracted, were recorded. Once parameters stabilized, the well was allowed to rest for about two hours before a portion of the groundwater was collected for chemical analysis. Samples were analyzed for total metals, semi-volatiles, volatiles, and PCBs in accordance with their respective EPA methods.

All groundwater samples collected during this IIWA project were analyzed by Lozier/Express Laboratories (Lozier). Lozier is a New York State Department of Health, Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis.

The Environmental Laboratory Approval Program (ELAP) was established in 1984, under Section 502 of the Public Health Law and is responsible for the certification of laboratories performing environmental analyses on samples originating from New York State, thus ensuring the accuracy and reliability of these analyses. All sample bottles and laboratory analysis were provided by NYSDEC. All data interpretations associated with this program (and its elements) were conducted using NYSDEC equipment and staff.

After the applicable groundwater sample collections were complete and all down-probe measurements had been made and recorded, all retrievable equipment was removed from the monitoring point. Either discarded or cleaned as appropriate using approved methods.

4.0 SOIL SAMPLING

Eighty-three soil samples were collected from 21 soil borings and five monitoring well installations. Of these, 60 samples were collected from four foot acetate liners using direct push methods and 23 samples were collected from two foot split spoons samplers in advance of 4.25 inch hollow stem augers. From the 83 samples, 31 were analyzed for polychlorinated biphenyls (PCBs), 34 were analyzed for semi-volatile organic compounds (SVOCs), 10 samples were analyzed for volatile organic compounds (VOCs), five samples were analyzed for total petroleum hydrocarbons (TPH), two samples were analyzed for metals and one sample was analyzed for toxic characteristic leaching potential VOCs (TCLP-VOCs).

Samples were collected both on-site and off-site. Figure 9 is a graphic representation of the boring locations, sample

number, analysis completed and the depth of the sample collection. Sixty-nine samples were collected from off site and 14 samples were collected from onsite. All samples were collected by the NYSDEC and transported to Lozier by a Lozier courier.

5.0 GROUNDWATER SAMPLING

Five groundwater samples were collected from five monitoring wells. Samples from each monitoring well, were analyzed for, VOCs, SVOCs, Pesticide/PCBs and metals. In addition, samples collected from MW-4 also included matrix spike analysis/matrix spike duplicate analysis for VOCs, SVOCs and Pesticide/PCBs.

Prior to collection of the sample, all monitoring wells were purged with a centrifugal pump for at least three well volumes or until field parameters are stabilized or the well purged dry. The wells were then allowed to recover for a two-hour period before samples were collected with new, disposable bailers. To reduce the potential for VOC loss and turbidity the sampling collection began first with the collection of volatile samples then metals, and so forth. All samples were collected by the NYSDEC and were sent to Lozier for analysis.

6.0 ANALYTICAL RESULTS

6.1 SOIL RESULTS

As outlined previously in Section 4.0, 83 soil samples were collected from 21 soil borings and five monitoring well installations. All sample results were compared to recommended soil cleanup guidance provided for in the NYSDEC, Division of Environmental Remediation, Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046 (4046) entitled "Determination of Soil Cleanup Objectives and Levels dated January 4, 1994 (Revised). All sample numbers, type of sample, locations etc... are presented in Table 1. Sample results are presented in subsequent

tables, as indicated, in the following discussion, and as reported from the laboratory in Appendix 8. Any samples that exceeded TAGM 4046 guidance is presented graphically in Figure 8.

Of the 83 samples, 34 were submitted to Lozier for SVOC analysis (see Table2). Fifteen of the 34 had detections of SVOCs. Of these 15 samples, only eight exceeded guidance levels from TAGM 4046 for one or more SVOC parameters. Of the eight samples, only one sample, sample ME-030 exceeded, 500 ppm (parts per million). Sample ME-030 was an offsite sample collected from SB-20 (see figure 9) from a depth of zero to 4 feet below ground surface. Total SVOC for this sample was 6,553 ppm. The results for this sample prompted additional sampling of the area surrounding SB-20 which is detailed further in Section 7.0. Two other samples, sample ME-047 and ME-017 were greater than 10 ppm total SVOC with an analytical result of 61.9 and 18.7 ppm respectively. Sample ME-047 was an onsite sample collected from SB-12A at a depth of zero to 4 feet. ME-017 is an offsite sample from SB-5 collected at four to 8 feet deep. Of the remaining four borings, each sample had one or more parameters which exceeded TAGM values, three results, ME-079, 2.8 ppm (MW-3, six to 8 feet), ME-055, 2.2 ppm (MW-2, zero to 2 feet), and ME-062, 1.02 ppm (SB-7, four to 8 feet) exceeded one ppm total SVOC. The last sample, ME-059 (SB-8, four to 8 feet) had one parameter that exceeds TAGM The total SVOC value for this sample was less than one ppm total SVOC.

Ten samples were analyzed for VOCs (see Table 3.) Of these ten only four samples had VOCs above detection limits, however, only one sample exceeded TAGM values. Sample ME-064, a sample collected from MW-2 at a depth from zero to 2 feet, exceeded TAGM soil cleanup objective values of total VOC less than 10 ppm with a total VOC result of 1,036 ppm.

One additional sample was collected from ME-080 (Table 3) and was analyzed for Toxic Characteristic Leaching Procedure (TCLP), TCLP is a test method that determines the ability of a solid waste to leach when placed in a landfill. This is used to determine if a waste is a "hazardous waste" as defined by 6NYCRR Part 371. The sample that was subject to this procedure was sample ME-080 (MW-3, eight to 10 feet.) The results were non-detect for all

parameters.

Table 4 details sample results for the 31 samples analyzed for PCBs. Twenty-two of the samples were collected from zero to 2 feet deep and the sample was collected from the uppermost soil of the core. There were no detections for PCBs in any samples collected and analyzed during this IIWA.

Two samples, sample ME-025 and ME-033 were analyzed for metals. Sample ME-025 (SB-10, 12 to 16 feet) slightly exceeded TAGM numbers for copper, zinc and mercury (Table 5). Copper values for ME-025 were 59.6 ppm vs. 25 ppm or soil background which is 1-50 ppm. Zinc values were 65.2 ppm vs. 20 ppm or soil background which is 9 to 50 ppm. Mercury was detected in ME-025 at 0.440 ppm vs. TAGM value of 0.100 ppm.

During soil borings one parameter noted was the presence of petroleum odors. If a section of the boring had a petroleum odor, this was noted. Petroleum odors were noted in fifteen of 26 borings (Figure 7). Five samples, ME-022, ME-037, ME-044, ME-053, and ME-081 were collected and analyzed for TPH (Table 6). The analysis noted two distinct products, # 2 fuel oil and Kerosene. In four of 5 samples # 2 fuel oil was detected, kerosene only, was noted in sample ME-037. Sample ME-022 was labeled a "soil" sample but results were returned as a "water" sample because of the large quantity of water and fuel oil in the sample jar. Number 2 fuel oil was noted in this water at 91,303 ppm.

6.2 GROUNDWATER RESULTS

Groundwater samples were collected from all five monitoring wells. All samples were analyzed for metals, VOCs, SVOCs, pesticides and PCBs. Raw sample data is presented in Appendix 8.

Water quality standards were exceeded for some metals in all of the groundwater samples (see Table 7.) All five

monitoring wells exceeded ambient water quality standards of 3 ppb for antimony. Values for antimony ranged from a high of 11.5 ppb in MW-5 to a low of 7.5 ppb in MW-3. In addition, all five wells exceeded the combined standard of 500 ppb for iron and manganese. Four of five samples, ranging from 1,820,000 ppb to 55,600 ppb, exceeded standards of 35,000 ppb for magnesium. Of the five samples only MW-3 did not exceed standards for magnesium. Two samples, one from MW-5, at 8390 ppb and another from MW-2, at 2950 ppb, exceeded standards of 2000 ppb for aluminum. Two samples, MW-5 at 16.5 ppb and MW-4 at 7.2 ppb, exceeded standards of 5 ppb for cadmium. Two samples, exceeded standards for thallium, one from MW-1, at 21.5 ppb and one from MW-5 at 7.4 ppb. Lead standards of 25 ppb for lead was exceeded in one sample from MW-5 with a result of 199 ppb. One sample from MW-3, exceeded standards of 10 ppb for selenium with a result of 19.9 ppb.

Sample results for all five wells indicate that there were no VOC detections that exceeded the water quality guidance levels. However, several tentatively identified compounds (TICs), at low concentrations, related to petroleum products were detected in MW-3 and MW-2. Sample results did not detect any SVOCs in any monitoring well. In addition, there were no detections of pesticides or PCBs in any of the groundwater samples.

7.0 ADDITIONAL SAMPLING

Of the eight samples analyzed for SVOC sample number ME-030, collected from SB-20 at zero to 4 feet, had the highest results (Table 2.) Because the sample result far exceeded soil cleanup goals set by TAGM 4046 and because the results seemed anomalous when compared with other sample results it was determined that this required further investigation.

Information from the boring logs (Appendix 3) and the daily logs (Appendix 9) note that this sample was fill material at the bottom of the core that exhibited an odor. On December 3, 2001, NYSDEC, installed two additional sample borings located three feet northeast and southwest of SB-20. Soil borings, SB-20A and SB-20B (see Figure 9) were started by first removing the sod, then the soils were hand augered to approximately 3 feet deep. At this depth

hand, hammered, soil cores were collected to a depth of four feet. Two samples, ME106 (SB20A) and ME107 (SB20B) was obtained from each core and submitted to Lozier for analysis for SVOCs. Results of this sampling (Table 2) were non-detect for SVOCs.

8.0 CONCLUSIONS

The primary goal of the Immediate Investigative Work Assignment (IIWA) at Marcon Erectors was to determine if the removal action implemented in January 2001 was effective in removing the PCB contaminated soil and material from the Marcon Erectors site thus mitigating the threat to the public and the environment. Thirty-one samples collected during the IIWA both from on and offsite of the Marcon Erectors site were analyzed for PCBs and all thirty-one samples did not detect any PCBs in the soils. This information and the confirmatory sampling results from the removal action has determined that the hazardous PCB contaminated waste has been removed from the Marcon Erectors Site. Thus, the removal action undertaken in January 2001 was successful.

History notes that the site and facility had been used for the storage and distribution of petroleum products by various companies, from at least 1931 until 1978. A secondary objective of the IIWA was to attempt to determine the nature and extent of known petroleum contamination at and proximate to the Marcon Erectors site. Analytical results have determined that the petroleum contamination exists on the property to the silty clay layer both on and proximate to the Marcon Erectors property. Besides analytical results petroleum odors were noted in several borings and are presented in Figure 7.

Petroleum odors exist in the soils at the northern access gate and petroleum contamination was noted north of the building in test pits dug during the removal action. This contamination is generally confined to this immediate area as soil sample results from SB-6 and from soils at MW-1 did not indicate petroleum contamination. This is supported by the absence of petroleum contamination in the groundwater to the north and is indicative that the residential area

to the north of the site has not been affected by historical activities at the Marcon Erectors site.

There is petroleum contamination on the site and to the south of the facility. The surficial geology of the subject area details fills and soils over a silty-clay layer. There are petroleum odors present in the fill material, but the silty-clay layer acts as a vertical barrier, preventing downward migration of the contamination. The silty-clay layer is approximately three to 6 feet deep at the northern edge of the property but dips to the south and plunges decidedly to about 16 to 18 feet in depth approximately fifty feet south of the facility. This area has a large quantity of fills, overlying the silty-clay. There is evidence that there is petroleum contamination including, blebs of product, found in SB-9 and SB-11, throughout out this fill. There are also petroleum odors as far south as an asphalt path which leads to the Scadjaquada Creek, but, it is not evident that the material has extended to the creek.

The western extent of the petroleum contamination seems to be confined to the eastern edge of Howell Street. Although the exact extent is not known, there is evidence that the contamination which exists in SB-9 has not traveled east to SB-13. Boring logs and daily field notes did not indicate any petroleum odors from the boring in SB-13 nor was there any detected contamination in the sample.

There was a "fuel oil, petroleum odor" noted in the soil at SB 19 and SB-17 which are located just outside the eastern edge of the containment facility. However, sampling results from SB-19 and SB17 did not detect any SVOCs or VOCs.

Past historical evidence from a variety of sources shows the area to the south of the Marcon Erectors site has been extensively filled with material from an undetermined origin. Boring logs from soil borings and monitoring well installation confirm this evidence. It is also evident from soil borings and previous test pitting that there is fill material over most of the site. The fill material has SVOC contamination and eight of thirty-two samples exceed the TAGM recommended soil cleanup goals. One sample, sample ME-030 from soil boring SB-20 had sample results that far exceeded TAGM, however, this sample was from about three feet below the surface and subsequent, follow-up

sampling did not note a widespread issue. Low level SVOCs are ubiquitous in urban industrial settings and given the historical use of the area for rail transportation and industry their presence is expected.

The groundwater has some metal contamination above groundwater standards (Table 7) however, it is noted that any localized groundwater contamination would have no adverse effect on the public because drinking water is supplied by the city of Buffalo.

9.0 SUMMARY

An Immediate Investigative Work Assignment was assigned to Earth Tech Corporation to assist the NYSDEC in collecting information to meet the objectives of the Immediate Investigative Work Assignment Work Plan for the Marcon Erectors Site. The primary goal of the work was to determine the effectiveness of an emergency removal action undertaken to remove all hazardous PCB contaminated, material from the Marcon Erectors property. The work assignment would help determine if the PCBs had impacted the surrounding property. During the removal action it was evident that petroleum contamination exists at the Marcon Erectors Site. Secondary to the goals of this IIWA was to determine the nature and extent of this petroleum contamination.

To fulfill the assignment Earth Tech or their subcontractors completed a survey of the site and surrounding property, completed a geophysical survey, installed 21 soil borings using direct push technology and installed five monitoring wells. Soil cores were screened from all intrusive soil work and a total of 83 soil samples were collected by the NYSDEC. In addition, five groundwater samples were also collected by NYSDEC.

All work was completed with NYSDEC or Earth Tech oversight all sampling was completed by NYSDEC and all analysis was completed by an independent New York State Department of Health Environmental Laboratory Approval Program-certified laboratory.

Table 1
Marcon Erectors, IIWA
Sample Identification Table

Sample ID Number	Sample Matrix	Boring Identification	Sampling Depth	Analysis Required
ME-001	Soil	SB-6	0-2'	PCB
ME-002	Soil	SB-6	16-20'	SVOC
ME-003	Soil	SB-6	16-20'	VOC
ME-004	Soil	SB-19	0-2'	PCB
ME-005	Soil	SB-19	4-8'	SVOC
ME-006	Soil	SB-19	16-20'	VOC
ME-007	Soil	SB-3	0-2'	PCB
ME-008	Soil	SB-1	0-2'	PCB
ME-009	Soil	SB-1	0-2'	SVOC
ME-010	Soil	SB-1	0-4'	VOC
ME-011	Soil	SB-2	0-2'	PCB
ME-012	Soil	SB-2	4-5'	SVOC
ME-013	Soil	SB-2	12-16'	VOC
ME-014	Soil	SB-4	0-2'	PCB
ME-015	Soil	SB-4	12-16'	SVOC
ME-016	Soil	SB-4	12-16'	VOC
ME-017	Soil	SB-5	4-8'	SVOC
ME-018	Soil	SB-5	16-20'	SVOC
ME-019	Soil	SB5	16-20'	VOC
ME-020	Soil	SB-5	16-20'	PCB
ME-021	Soil	SB-11	12-16'	PCB
ME-022	Soil	SB-11	16-20'	TPH 310-13
ME-023	Soil	SB-11	16-20'	SVOC
ME-024	Soil	SB-10	0-2'	PCB
ME-025	Soil	SB-10	12-16'	METALS
ME-026	Soil	SB-10	12-16'	SVOC
ME-027	Soil	SB-15	15-16'	PCB
ME-028	Soil	SB-15	16-20'	SVOC
ME-029	Soil	SB-15	16-20'	VOC
ME-030	Soil	SB-20	0-4'	SVOC

Table 1
Marcon Erectors, IIWA
Sample Identification Table

Sample ID Number	Sample Matrix	Boring Identification	Sampling Depth	Analysis Required
ME-031	Soil	SB-20	20-24'	SVOC
ME-032	Soil	SB-20	0-2'	PCB
ME-033	Soil	SB-13	4-8'	METALS
ME-034	Soil	SB-13	12-16'	SVOC
ME-035	Soil	SB-13	0-2'	PCB
ME-036	Soil	SB-18	0-2'	PCB
ME-037	Soil	SB-18	4-8'	TPH 310-13
ME-038	Soil	SB-18	6-7'	PCB
ME-039	Soil	SB-18	8-12'	SVOC
ME-040	Soil	SB-18	4-8'	VOC
ME-041	Soil	SB-17	0-2'	PCB
ME-041A	Soil	SB-17	8-12'	SVOC
ME-042	Soil	SB-16	0-2'	PCB
ME-043	Soil	SB-16	4-8'	SVOC
ME-044	Soil	SB-16	4-8'	TPH 310-13
ME-045	Soil	SB-16	12-16'	SVOC
ME-046	Soil	SB-12	0-4'	PCB
ME-047	Soil	SB-12A	0-4'	SVOC
ME-048	Soil	SB-12A	0-2'	PCB
ME-049	Soil	SB-14	0-2'	PCB
ME-050	Soil	SB-14	4-8'	SVOC
ME-051	Soil	SB-9	0-2'	PCB
ME-052	Soil	SB-9	4-8'	SVOC
ME-053	Soil	SB-9	16-20'	TPH 310-13
ME-054	Soil	MW-2	0-2'	PCB
ME-055	Soil	MW-2	0-2'	SVOC
ME-056	Soil	MW-2	12-14'	SVOC
ME-057	Soil	MW-2	14-16'	PCB
ME-058	Soil	SB-8	0-2'	PCB
ME-059	Soil	SB-8	4-8'	SVOC

Table 1
Marcon Erectors, IIWA
Sample Identification Table

Sample ID Number	Sample Matrix	Boring Identification	Sampling Depth	Analysis Required
ME-060	Soil	SB-8	8-12'	SVOC
ME-061	Soil	SB-7	0-4'	PCB
ME-062	Soil	SB-7	4-8'	SVOC
ME-063	Soil	SB-7	16-20'	SVOC
ME-064	Soil	MW-2	0-2'	VOC
ME-065	Soil	MW-1	0-2'	PCB
ME-066	Soil	MW-1	2-4'	PCB
ME-067	Soil	MW-1	4-6'	SVOC
ME-068	Soil	MW-5	0-2'	PCB
ME-069	Soil	MW-5	8-10'	SVOC
ME-070	Soil	MW-5	8-12'	PCB
ME-071	Soil	MW-5	16-18'	SVOC
ME-072	Soil	MW-5	spoil	SVOC
ME-073	Soil	MW-4	0-2'	PCB
ME-074	Soil	MW-4	6-8'	SVOC
ME-075	Soil	MW-4	18-20'	SVOC
ME-076	Soil	MW-4	20-22'	PCB
ME-077	Soil	MW-4	20-22'	VOC
ME-078	Soil	MW-3	0-2'	PCB
ME-079	Soil	MW-3	6-8'	SVOC
ME-080	Soil	MW-3	8-10'	VOC (TCLP)
ME-081	Soil	MW-3	10-12'	TPH 310-13
ME-082	Soil	MW-3	22-24'	SVOC
ME-083	Water	MW-1	N/A	VOC
ME-084	Water	MW-1	N/A	METALS
ME-085	Water	MW-1	N/A	SVOC
ME-086	Water	MW-1	N/A	PCB
ME-087	Water	MW-5	N/A	VOC
ME-088	Water	MW-5	N/A	METALS
ME-089	Water	MW-5	N/A	SVOC

Table 1
Marcon Erectors, IIWA
Sample Identification Table

Sample ID Number	Sample Matrix	Boring Identification	Sampling Depth	Analysis Required
ME-090	Water	MW-5	N/A	PCB
ME-091	Water	MW-4	N/A	VOC
ME-092	Water	MW-4	N/A	METALS
ME-093	Water	MW-4	N/A	SVOC
ME-094	Water	MW-4	N/A	PCB
ME-095	Water	MW-4	N/A	VOC
ME-096	Water	MW-4	N/A	SVOC
ME-097	Water	MW-4	N/A	PCB
ME-098	Water	MW-3	N/A	VOC
ME-099	Water	MW-3	N/A	METALS
ME-100	Water	MW-3	N/A	SVOC
ME-101	Water	MW-3	N/A	PCB
ME-102	Water	MW-2	N/A	VOC
ME-103	Water	MW-2	N/A	METALS
ME-104	Water	MW-2	N/A	SVOC
ME-105	Water	MW-2	N/A	PCB
ME-106	Soil	SB-20A	3-4'	SVOC
ME-107	Soil	SB-20B	3-4'	SVOC

N/A - Not Applicable

Table 2
Marcon Erectors Site, IIWA
Semi-Volatile Compounds

Sample ID Number	ME-002	ME-005	ME-009	ME-012	ME-015	ME-017	ME-018	ME-023	Soil Cleanup Objective (ppb)*
Boring Identification	(SB-6)	(SB-19)	(SB-1)	(SB-2)	(SB-4)	(SB-5)	(SB-5)	(SB-11)	
Sampling Depth	(16-20')	(4-8')	(0-2')	(4-5')	(12-16')	(4-8')	(16-20')	(16-20')	
Semi-Volatile Organic Compounds (detected compounds only) by EPA Method 8270									
PARAMETER	Concentration (ppb)								
Naphthalene						6,749			13,000
Acenaphthylene						935			41,000
Acenaphthene						4,023			50,000
2,4-Dinitrophenol						4,047			200 or MDL
Dibenzofuran						336			6,200
2,4-Dinitrotoluene						2,366			N/A
4, Nitrophenol									100 or MDL
Fluorene						2,131		75J	50,000
Phenanthrene						11,854			50,000
Anthracene									50,000
Fluoranthene						3,796			50,000
Pyrene						13,065			50,000
Butyl benzyl phthalate									50,000
Benzo(a)anthracene						2,729			224
Chrysene						2,669			400
Benzo(b)fluoranthene						2,395		77J	1,100
Benzo(k)fluoranthene						845			1,100
Benzo(a)pyrene						3,959			61 or MDl
Indeno(1,2,3,-c,d)pyrene									3,200
Dibenz(a,h)anthracene									14 or MDl
Benzo(g,h,i)perylene									50,000
TOTALS						61,899		152	

* New York State Department of Environmental Conservation ,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

Table 2 (cont.)
Marcon Erectors Site, IIWA
Semi-Volatile Compounds

Sample ID Number	ME-026	ME-028	ME-030	ME-031	ME-034	ME-039	ME-041A	ME-043	Soil Cleanup Objective (ppb)*
Boring Identification	(SB-10)	(SB-15)	(SB-20)	(SB-20)	(SB-13)	(SB-18)	(SB-17)	(SB-16)	
Sampling Depth	(12-16')	(16-20')	(0-4')	(20-24')	(12-16')	(8-12')	(8-12')	(4-8')	
Semi-Volatile Organic Compounds (detected compounds only) by EPA Method 8270									
PARAMETER	Concentration (ppb)								
Naphthalene			174,200				97J	527	13,000
Acenaphthylene									41,000
Acenaphthene									50,000
2,4-Dinitrophenol									200 or MDL
Dibenzofuran									6,200
2,4-Dinitrotoluene			178,200						N/A
4, Nitrophenol			181,700						100 or MDL
Fluorene			179,100					467	50,000
Phenanthrene			1,290,000	385				600	50,000
Anthracene			267,400					167	50,000
Fluoranthene			1,126,500	446			137J	193	50,000
Pyrene			1,119,700				130		50,000
Butyl benzyl phthalate				233					50,000
Benzo(a)anthracene			439,500						224
Chrysene			486,200	182				80J	400
Benzo(b)fluoranthene			470,800	234			150J		1,100
Benzo(k)fluoranthene			231,600				140J		1,100
Benzo(a)pyrene			408,300						61 or MDl
Indeno(1,2,3,-c,d)pyrene									3,200
Dibenz(a,h)anthracene									14 or MDl
Benzo(g,h,i)perylene									50,000
TOTALS			6,553,200	1,480			654	2,034	

* New York State Department of Environmental Conservation,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

Table 2 (cont.)
Marcon Erectors Site, IIWA
Semi-Volatile Compounds

Sample ID Number	ME-045	ME-047	ME-050	ME-052	ME-055	ME-056	ME-059	ME-060	Soil Cleanup Objective (ppb)*
Boring Identification	(SB-16)	(SB-12A)	(SB-14)	(SB-9)	(MW-2)	(MW-2)	(SB-8)	(SB-8)	
Sampling Depth	(12-16')	(0-4')	(4-8')	(4-8')	(0-2')	(12-14')	(4-8')	(8-12')	
Semi-Volatile Organic Compounds (detected compounds only) by EPA Method 8270									
PARAMETER	Concentration (ppb)								
Naphthalene									13,000
Acenaphthylene		308							41,000
Acenaphthene		350							50,000
2,4-Dinitrophenol		349							200 or MDL
Dibenzofuran		217							6,200
2,4-Dinitrotoluene									N/A
4, Nitrophenol									100 or MDL
Fluorene		503		217					50,000
Phenanthrene		2,171			313		80J		50,000
Anthracene		624			80J				50,000
Fluoranthene		3,066			477		165J		50,000
Pyrene							167		50,000
Butyl benzyl phthalate									50,000
Benzo(a)anthracene		1,784			300		107J		224
Chrysene		1,786			317		101J		400
Benzo(b)fluoranthene		2,154			387		160J		1,100
Benzo(k)fluoranthene		2,192			283		89J		1,100
Benzo(a)pyrene		2,121			317		85J		61 or MDl
Indeno(1,2,3,-c,d)pyrene		525							3,200
Dibenz(a,h)anthracene		173							14 or MDl
Benzo(g,h,i)perylene		464			67J				50,000
TOTALS		18,787		217	2541		954		

* New York State Department of Environmental Conservation,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

Table 2 (cont.)
Marcon Erectors Site, IIWA
Semi-Volatile Compounds

Sample ID Number	ME-062	ME-063	ME-067	ME-069	ME-071	ME-072	ME-074	ME-075	Soil Cleanup Objective (ppb)*
Boring Identification	(SB-7)	(SB-7)	(MW-1)	(MW-5)	(MW-5)	(MW-5)	(MW-4)	(MW-4)	
Sampling Depth	(4-8')	(16-20')	(4-6')	(8-10')	(16-18')	(spoil)	(6-8')	(18-20')	
Semi-Volatile Organic Compounds (detected compounds only) by EPA Method 8270									
PARAMETER	Concentration (ppb)								
Naphthalene									13,000
Acenaphthylene									41,000
Acenaphthene									50,000
2,4-Dinitrophenol									200 or MDL
Dibenzofuran									6,200
2,4-Dinitrotoluene									N/A
4, Nitrophenol									100 or MDL
Fluorene									50,000
Phenanthrene	77J	83J					107J		50,000
Anthracene									50,000
Fluoranthene	130J	90J	75J				202		50,000
Pyrene	267	97J	78J				229		50,000
Butyl benzyl phthalate									50,000
Benzo(a)anthracene	100J						107J		224
Chrysene	113J								400
Benzo(b)fluoranthene	87J						186		1,100
Benzo(k)fluoranthene	83J								1,100
Benzo(a)pyrene	163J						153J		61 or MDl
Indeno(1,2,3,-c,d)pyrene									3,200
Dibenz(a,h)anthracene									14 or MDl
Benzo(g,h,i)perylene									50,000
TOTALS	1,020	270	153				984		

* New York State Department of Environmental Conservation ,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

Table 2 (cont.)
Marcon Erectors Site, IIWA
Semi-Volatile Compounds

Sample ID Number	ME-079	ME-082	ME-106	ME-107					Soil Cleanup Objective (ppb)*
Boring Identification	(MW-3)	(MW-3)	SB-20A	SB-20B					
Sampling Depth	(6-8')	(22-24')	(3-4')	(3-4')					
Semi-Volatile Organic Compounds (detected compounds only) by EPA Method 8270									
PARAMETER	Concentration (ppb)								
Naphthalene									13,000
Acenaphthylene									41,000
Acenaphthene									50,000
2,4-Dinitrophenol									200 or MDL
Dibenzofuran									6,200
2,4-Dinitrotoluene									N/A
4, Nitrophenol									100 or MDL
Fluorene									50,000
Phenanthrene	707								50,000
Anthracene									50,000
Fluoranthene	826								50,000
Pyrene	900								50,000
Butyl benzyl phthalate									50,000
Benzo(a)anthracene	333								224
Chrysene									400
Benzo(b)fluoranthene									1,100
Benzo(k)fluoranthene									1,100
Benzo(a)pyrene									61 or MDl
Indeno(1,2,3,-c,d)pyrene									3,200
Dibenz(a,h)anthracene									14 or MDl
Benzo(g,h,i)perylene									50,000
TOTALS	2,766								

* New York State Department of Environmental Conservation ,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

Table 3
Marcon Erectors Site, IIWA
Volatile Organic Compounds

Sample ID Number	ME-003	ME-006	ME-010	ME-013	ME-016	ME-019	ME-029	ME-040	Soil Cleanup Objective (ppb)*
Boring Identification	(SB-6)	(SB-19)	(SB-1)	(SB-2)	(SB-4)	(SB-5)	(SB-15)	(SB-18)	
Sampling Depth	(16-20')	(16-20')	(0-4')	(12-16')	(12-16')	(16-20')	(16-20')	(4-8')	
Volatile Organic Compounds (detected compounds only) by EPA Method 8260									
PARAMETER	Concentration (ppb)								
cis-1,2-Dichloroethene							23.9		N/A
Benzene									60
Ethylbenzene						13.4	24.9	469.2	5500
m&p-xylene						22.8	32.7		1200**
o-xylene						20.8	16.2		1200**
isopropylbenzene								147.5	N/A
n-Propylbenzene						13.1	26.7	643.8	N/A
1,3,5-Trimethylbenzene						8.1	19.0	181.2	N/A
tert-Butylbenzene						23.9	36.8		N/A
1,2,4-Trimethylbenzene						24.1	44.5	158.8	N/A
sec-butylbenzene							20.2	650.8	N/A
4-Isopropyltoluene									N/A
Naphthalene						60.1	132.6		13000
TOTALS						186.3	377.5	2251.3	

* New York State Department of Environmental Conservation ,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).
**Values for m&p-Xylene and o-Xylene are combined and listed as "Xylenes" in TAGM 4046

Table 3 (cont.)
Marcon Erectors Site, IIWA
Volatile Organic Compounds

Sample ID Number	ME-064	ME-077	ME-080***						Soil Cleanup Objective (ppb)*
Boring Identification	(MW-2)	(MW-4)	(MW-3)						
Sampling Depth	(0-2')	(20-22')	(8-10')						
Volatile Organic Compounds (detected compounds only) by EPA Method 8260									
PARAMETER	Concentration (ppb)								
cis-1,2-Dichloroethene									N/A
Benzene	103.6								60
Ethylbenzene	1635.4								5500
m&p-xylene	35,338.5								1200**
o-xylene	777.7								1200**
isopropylbenzene	22,820.6								N/A
n-Propylbenzene	70,713								N/A
1,3,5-Trimethylbenzene	112,784.9								N/A
tert-Butylbenzene	17,126.1								N/A
1,2,4-Trimethylbenzene	356,643.7								N/A
sec-butylbenzene	398,727.9								N/A
4-Isopropyltoluene	19,828.5								N/A
Naphthalene									13000
TOTALS	1,036,500								

* New York State Department of Environmental Conservation,Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

**Values for m&p-Xylene and o-Xylene are combined and listed as "Xylenes" in TAGM 4046

***Sample analyzed for Volatile Organic Compounds Method 8260 using Toxic Characteristic Leaching Procedure (TCLP)

Shaded - exceed cleanup guidlines.

Table 4
Marcon Erectors Site, IIWA
PCB Analysis

Sample ID Number	Boring Identification	Sampling Depth	PCB Results
ME-001	SB-6	0-2'	ND
ME-004	SB-19	0-2'	ND
ME-007	SB-3	0-2'	ND
ME-008	SB-1	0-2'	ND
ME-011	SB-2	0-2'	ND
ME-014	SB-4	0-2'	ND
ME-020	SB-5	16-20'	ND
ME-021	SB-11	12-16'	ND
ME-024	SB-10	0-2'	ND
ME-027	SB-15	15-16'	ND
ME-032	SB-20	0-2'	ND
ME-035	SB-13	0-2'	ND
ME-036	SB-18	0-2'	ND
ME-038	SB-18	6-7'	ND
ME-041	SB-17	0-2'	ND
ME-042	SB-16	0-2'	ND
ME-046	SB-12	0-4'	ND
ME-048	SB-12A	0-2'	ND
ME-049	SB-14	0-2'	ND
ME-051	SB-9	0-2'	ND
ME-054	MW-2	0-2'	ND
ME-057	MW-2	14-16'	ND
ME-058	SB-8	0-2'	ND
ME-061	SB-7	0-4'	ND
ME-065	MW-1	0-2'	ND
ME-066	MW-1	2-4'	ND
ME-068	MW-5	0-2'	ND
ME-070	MW-5	8-12'	ND
ME-073	MW-4	0-2'	ND
ME-076	MW-4	20-22'	ND
ME-078	MW-3	0-2'	ND

Table 5
Marcon Erectors Site, IIWA
Metals Analysis

Sample Number	ME-025	ME-033	Recommended * Soil Cleanup Objective mg/kg (ppm)
Sample Location	SB-10 (12-16")	SB-13 (4-8')	
Parameter	mg/kg (ppm)	mg/kg (ppm)	
Aluminum	4200	4640	SB (33,000)
Antimony	<0.366	<0.269	SB
Arsenic	4.54	6.25	7.5 or SB (3-12)**
Barium	81.5	54.8	300 or SB (15-600)
Beryllium	0.562	0.628	0.16 or SB (0-1.75)
Cadmium	<0.122	<0.090	1 or SB
Calcium	3890	5450	SB (130-35,000)**
Chromium	6.00	5.45	10 or SB
Cobalt	4.20	4.04	30 or SB
Copper	59.6	26.7	25 or SB (1-50)
Iron	9860	2990	2000 or SB (2,000-550,000)
Lead	120	58.5	SB***
Magnesium	772	1280	SB (100-5,000)
Manganese	77.4	58.7	SB (50-5,000)
Mercury	0.440	<0.102	0.1
Nickel	11.7	8.30	13 or SB
Potassium	804	639	SB (8,5000-43,000)
Selenium	3.02	<0.449	2 or SB (0.1-3.9)
Silver	<0.611	<0.449	SB
Sodium	263	145	SB (6,000-8,000)
Thallium	<1.22	<0.898	SB
Vanadium	22.9	12.6	150 or SB
Zinc	65.2	40.7	20 or SB (9-50)
Cyanide	<0.087	1.36	N/A

*New York State Department of Environmental Conservation, Technical Guidance and Administrative Memorandum (TAGM), Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, January 24, 1994 (Revised).

(...value...) Eastern USA Background
**New York State Background
***Background levels for lead vary widely, Average levels in undeveloped, rural areas may range from 4-61 ppm. Average background levels in metropolitan or suburban areas or near highways are much higher and typically range from 200-500 ppm.

Table 6
Marcon Erectors Site, IIWA
Total Petroleum Hydrocarbon Analysis
Method 310-13

Sample Number	ME-022	ME-037	ME-044	ME-053	ME-081
Sample Location	SB-11 (16-20')	SB-18 (4-8')	SB-16 (4-8')	SB-9 (16-20')	MW-3 (10-12')
Matrix	Water	Soil	Soil	Soil	Soil
Fuel Oil # 2	91,303 mg/kg		559 mg/kg	49.5 mg/kg	128 mg/kg
Kerosene		39.1 mg/kg			

Table 7 (Cont.)
Marcon Erectors Site, IIWA
Groundwater Metals Analysis

Sample Number	ME-084	ME-088	ME-092	ME-099	ME-103	Ambient Water Quality Standards Class GA
Sample Location	MW-1	MW-5	MW-4	MW-3	MW-2	
Parameter	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l *
Aluminum	247	8390	256	359	2950	2,000**
Antimony	10.9	11.5	7.6	7.5	8.0	3
Arsenic	5.0 U	15. 5	5.0 U	5.0 U	15.8	25
Barium	32.1	403	430	54.3	44.1	1,000
Beryllium	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3
Cadmium	4.0	16.5	7.2	1.0 U	1.2	5
Calcium	626000	227000	250000	120000	263000	N/A
Chromium	3.0 U	18.4	3.0 U	3.0 U	8.2	50
Cobalt	6.9	3.7	3.0 U	3.0 U	3.0 U	N/A
Copper	12.1	282	21.5	11.7	15.2	200
Iron	8700	49700	7670	496	2700	500***
Lead	5.6	199	14.9	3.0 U	10.7	25
Magnesium	1820000	175000	55600	67.8	62700	35,000
Manganese	1460	668	717	374	469	500***
Mercury	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.7
Nickel	21.9	26.7	3.0 U	4.9	7.4	100
Potassium	60800	19400	30700	6010	15700	N/A
Selenium	8.7	5.0 U	5.0 U	19.9	5.0 U	10
Silver	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	50
Sodium	760000	91400	350000	43800	75500	****
Thallium	21.5	77.4	10.0 U	10.0 U	10.0 U	0.5
Vanadium	3.0 U	19.1	3.0 U	4.4	6.2	N/A
Zinc	31.3	214	25.8	11.9	22.9	2,000

*New York State Department of Environmental Conservation, Division of Water, Technical and Operational Guidance Series (1.1.1)(TOGS), Ambient water quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998.
** Maximum Allowable Concentration, Groundwater Effluent Limitation.
*** The sum of Iron and Manganese
**** Case by case evaluation.

FIGURES

Figure 1
MARCON ERECTORS SITE - IIWA
Scope of Work
Project Location

FIGURE 1
MARCON ERECTORS - IIWA
SITE LOCATION MAP

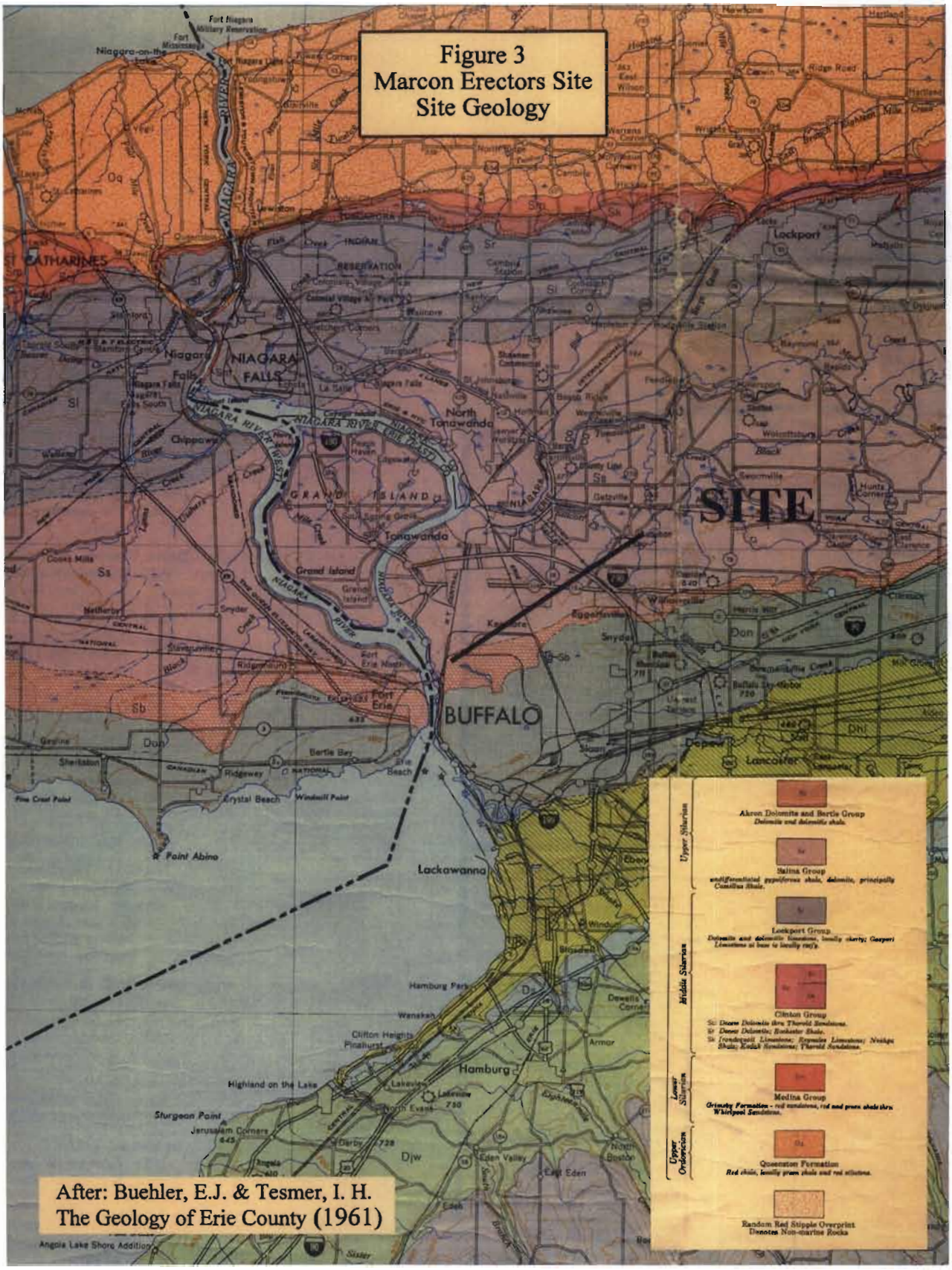
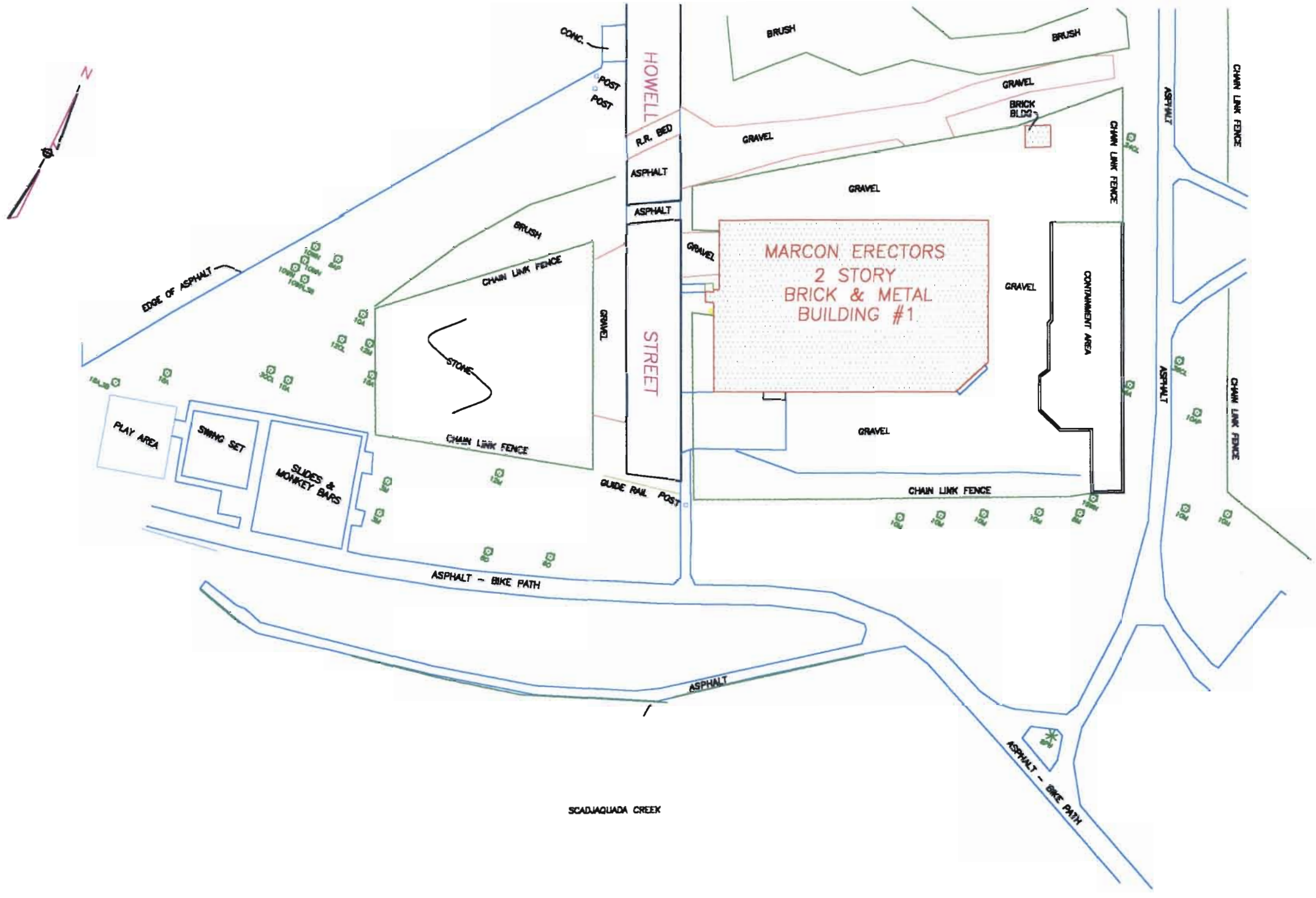


Figure 3
Marcon Erectors Site
Site Geology
SITE
BUFFALO
NIAGARA FALLS
Akron Dolomite and Bertie Group
Salina Group
Lockport Group
Clinton Group
Medina Group
Queenston Formation
Random Red Stipple Overprint
Denotes Non-marine Rocks
Upper Silurian
Middle Silurian
Lower Silurian
Upper Ordovician
After: Buehler, E.J. & Tesmer, I. H.
The Geology of Erie County (1961)



Drawing adapted from:

DEBORAH A. NAYBOR PLS, PC.
LAND SURVEYING - LAND PLANNING
12021 BROADWAY
ALDEN, NEW YORK 14004
(716) 937-9448

Site Plan

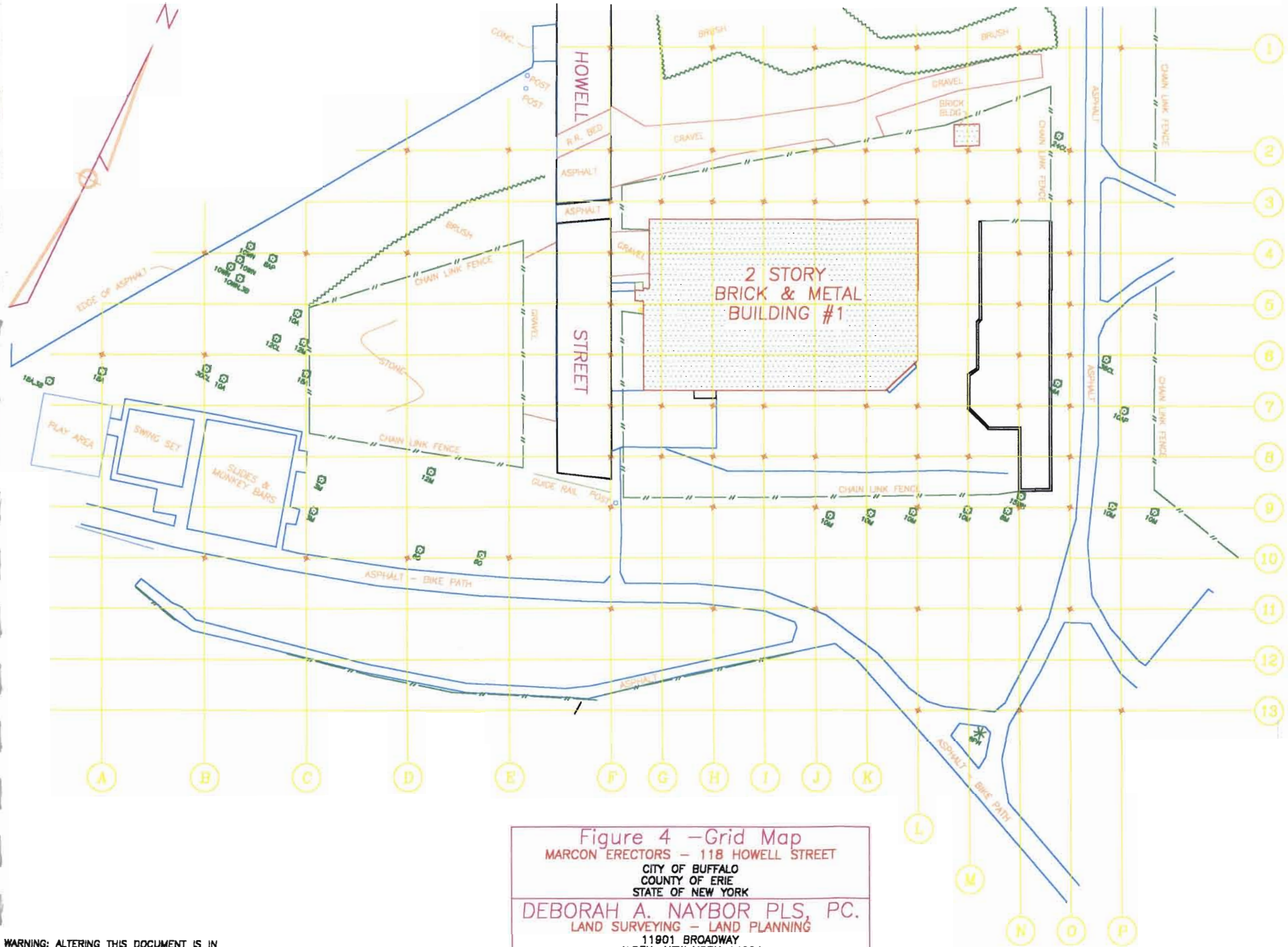
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/17/2001

DRAWING: Marcon Erectors IIWA Fig 2.dwg

SITE: Marcon Erectors Site, Site #915173
Buffalo (C), Erie County

Figure 2



GRID POINT	NORTHING	EASTING
A6	1070634.1888	1067110.2744
B4	1070701.0278	1067133.3502
B6	1070656.0706	1067155.2322
B10	1070566.1556	1067198.9963
C4	1070722.9096	1067176.3079
C10	1070588.0375	1067243.9639
D2	1070789.7480	1067201.3625
D4	1070744.7909	1067223.2646
D10	1070609.9189	1067288.9112
E2	1070811.6298	1067246.3401
E10	1070631.8006	1067333.8666
F1	1070876.4693	1067269.4171
F2	1070833.5122	1067291.2989
F3	1070811.0342	1067302.2398
F4	1070788.5549	1067313.1809
F5	1070766.0768	1067324.1215
F6	1070743.5975	1067335.0626
F7	1070721.1199	1067346.0033
F8	1070698.6400	1067356.9449
F9	1070676.1613	1067367.8859
F11	1070631.2038	1067389.7679
G3	1070621.9751	1067324.7184
G7	1070732.0607	1067368.4822
G8	1070709.5809	1067379.4237
H1	1070900.3512	1067314.3747
H2	1070855.3939	1067336.2566
H3	1070832.9159	1067347.1972
H7	1070743.0015	1067390.9810
H8	1070720.5217	1067401.9025
H9	1070698.0430	1067412.8435
H11	1070653.0855	1067434.7256
I3	1070643.6567	1067368.6761
I7	1070753.9422	1067413.4399
I8	1070731.4626	1067424.3813
J1	1070922.2330	1067359.3323
J2	1070877.2757	1067381.2142
J3	1070854.7975	1067392.1549
J6	1070742.4035	1067446.8602
J9	1070719.9247	1067457.8012
J11	1070674.9672	1067479.6832
K2	1070888.2186	1067403.6930
K3	1070865.7384	1067414.6336
K7	1070775.8238	1067458.3976
L1	1070944.1148	1067404.2899
L2	1070899.1574	1067426.1716
L3	1070876.6791	1067437.1123
L7	1070786.7642	1067480.8759
L8	1070764.2848	1067491.8171
L9	1070741.8060	1067502.7580
L11	1070696.8485	1067524.6399
L13	1070651.8909	1067546.5217
M2	1070910.0982	1067448.6503
M3	1070887.6196	1067459.5910
M6	1070775.2254	1067514.2963
N1	1070965.9987	1067449.2475
N2	1070921.0391	1067471.1290
N3	1070898.5605	1067482.0696
N4	1070876.0814	1067493.0105
N5	1070853.6028	1067503.9511
N6	1070831.1237	1067514.8920
N7	1070808.6453	1067525.8326
N9	1070763.6871	1067547.7143
N11	1070718.7294	1067569.5959
N13	1070673.7717	067591.4775
O2	1070831.9799	1067493.6076
O3	1070909.5013	1067504.5484
O4	1070887.0223	1067515.4893
O5	1070864.5436	1067526.4300
O6	1070842.0646	1067537.3708
O7	1070819.5860	1067548.3114
O8	1070797.1068	1067559.2524
O9	1070774.6280	1067570.1932
O11	1070729.6703	1067592.0747
P1	1070987.6785	1067494.2051
P13	1070895.6534	1067636.4351

Figure 4 –Grid Map
MARCON ERECTORS – 118 HOWELL STREET
CITY OF BUFFALO
COUNTY OF ERIE
STATE OF NEW YORK

DEBORAH A. NAYBOR PLS, PC.
LAND SURVEYING – LAND PLANNING
11901 BROADWAY
ALDEN, NEW YORK 14004
(716) 937-9448

DATE : 8/8/2001	SHEET : 1 OF 1	DWN BY: FMR
JOB NO.: 2001118	SCALE : 1" = 50'	CHK BY:

CADD2001: 2001118 \ GRID.DWG

Hand-augered boring location

Drawing adapted from:
DEBORAH A. NAYBOR, P.L.S., P.C.
LAND SURVEYORS - LAND PLANNERS

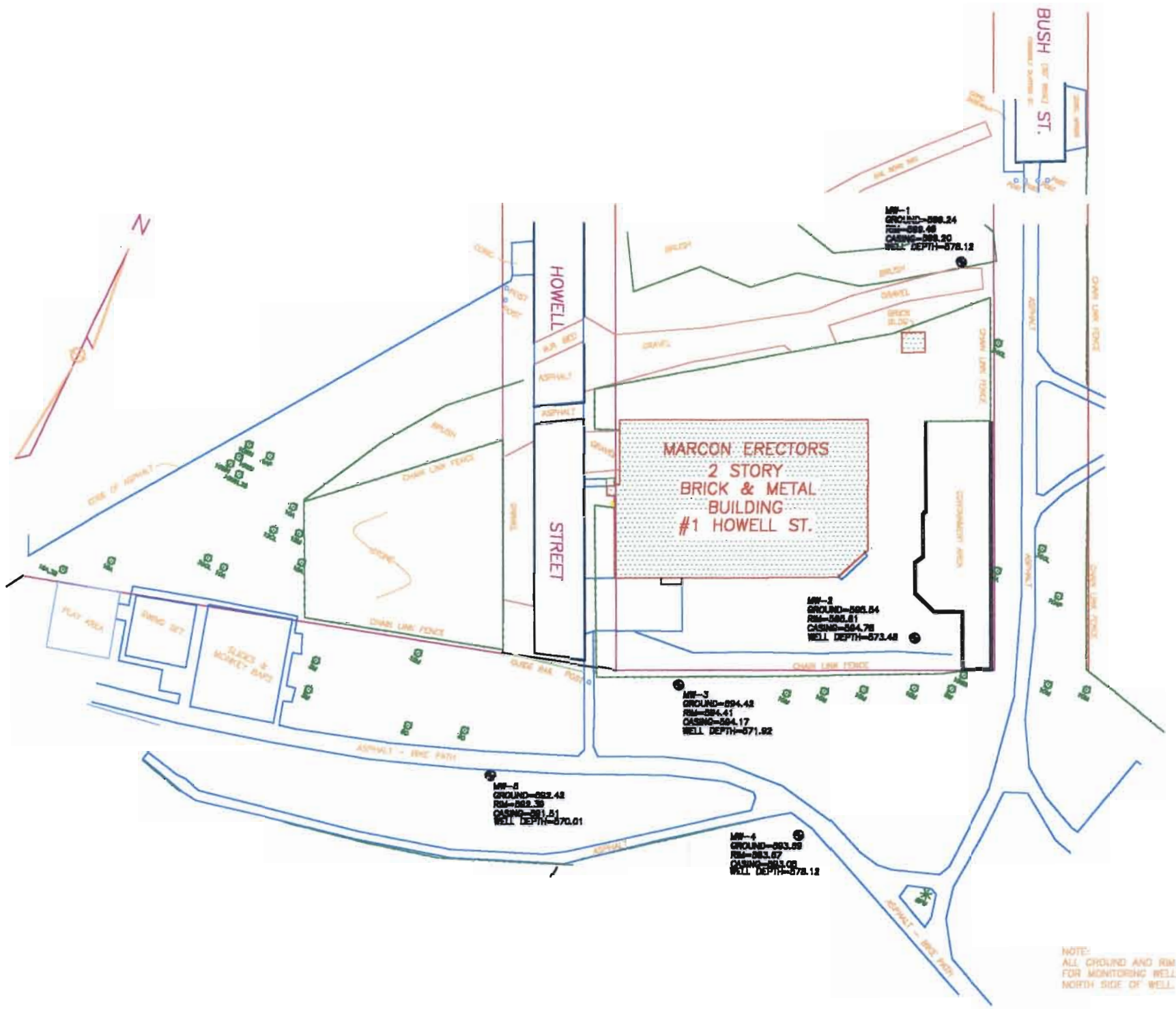
Soil Boring Locations

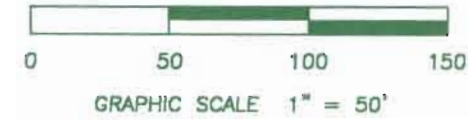
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/16/2001 | DRAWING: Marcon IIWA fig 5.dwg

SITE: Marcon Erectors Site, Site #915173
Buffalo (C) Erie County

Figure 5





Drawing adapted from:
DEBORAH A. MAYBOR, PLS, PC.

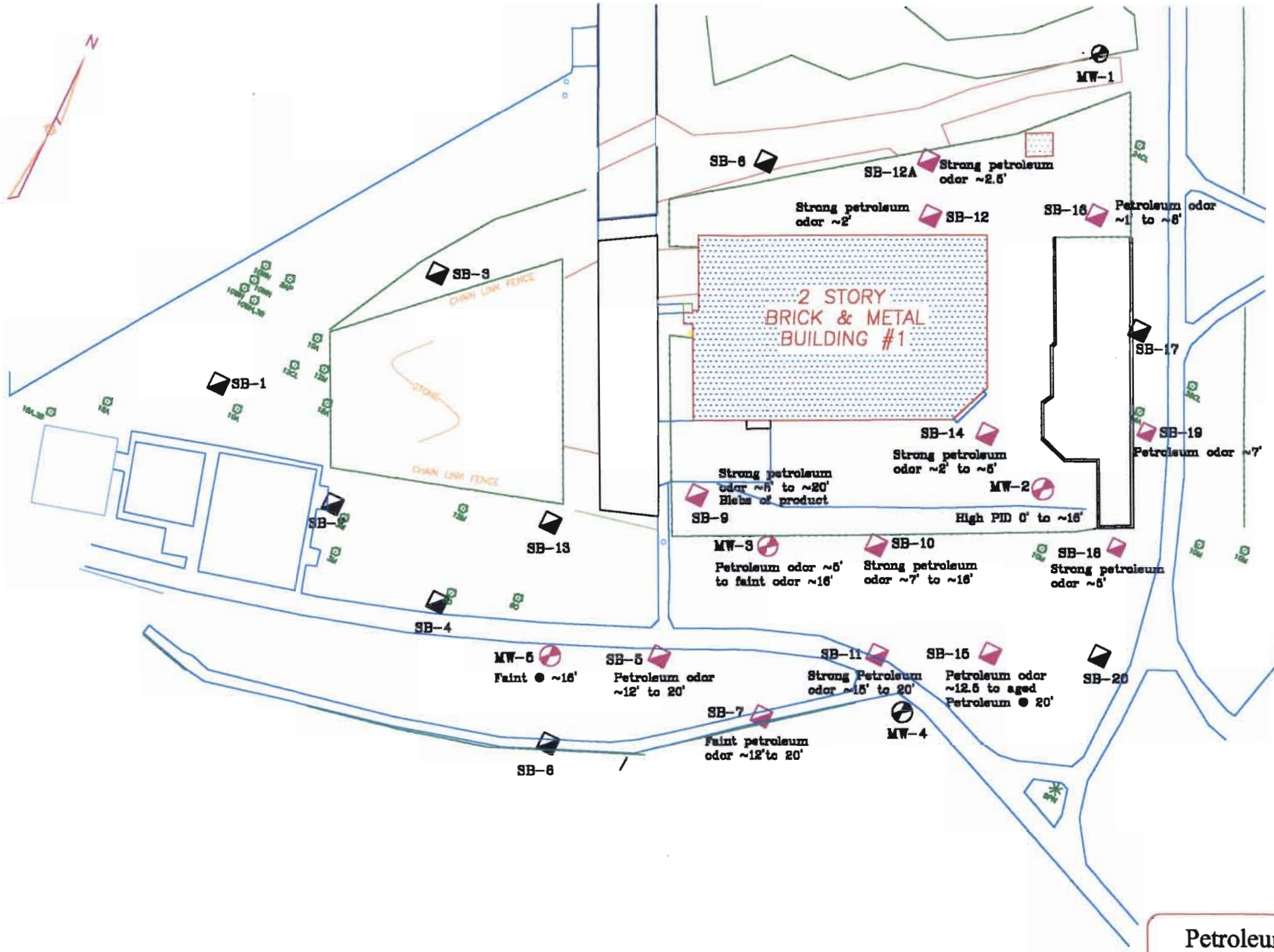
Monitoring Well Locations

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/16/2001 DRAWING#: Marcon IIWA fig 6.dwg

SITE: Marcon Erectors Site, Site #915173
Buffalo (C) Erie County

Figure 6



Drawing adapted from:

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LAND SURVEYING – LAND PLANNING
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ALDEN, NEW YORK 14004
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SCALE : 1" = 80'

Petroleum Odor Detections

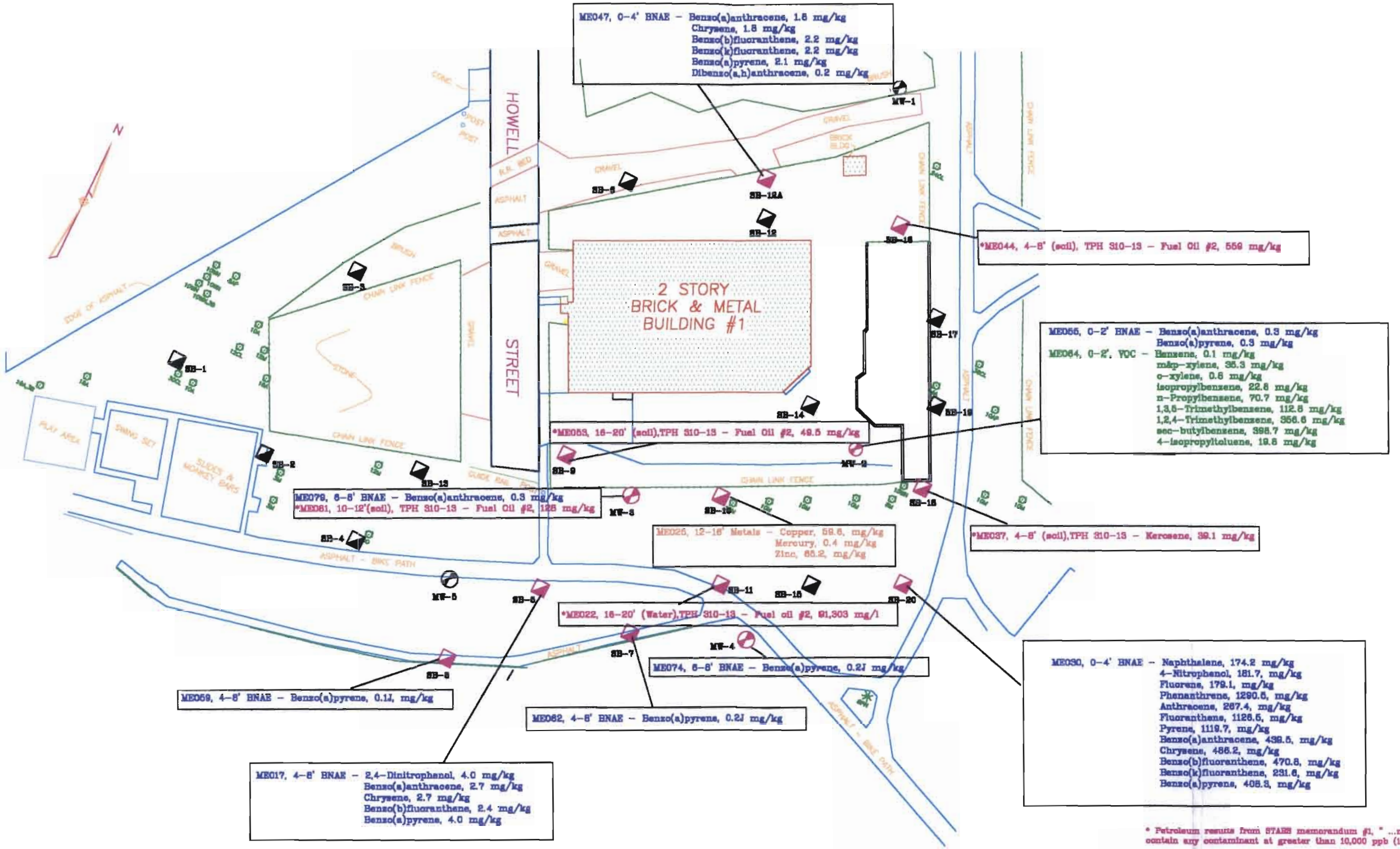
DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/17/2001

DRAWING: Marcon IIWA Fig 7.dwg

SITE: Marcon Erectors Site, Site #915173
Buffalo (C), Erie County

Figure 7



* Petroleum results from STARS memorandum #1, " ...must not contain any contaminant at greater than 10,000 ppb (10 ppm)..."

Drawing adapted from:
DEBORAH A. NAYBOR, P.L.S., P.C.
LAND SURVEYORS - LAND PLANNERS
[illegible]

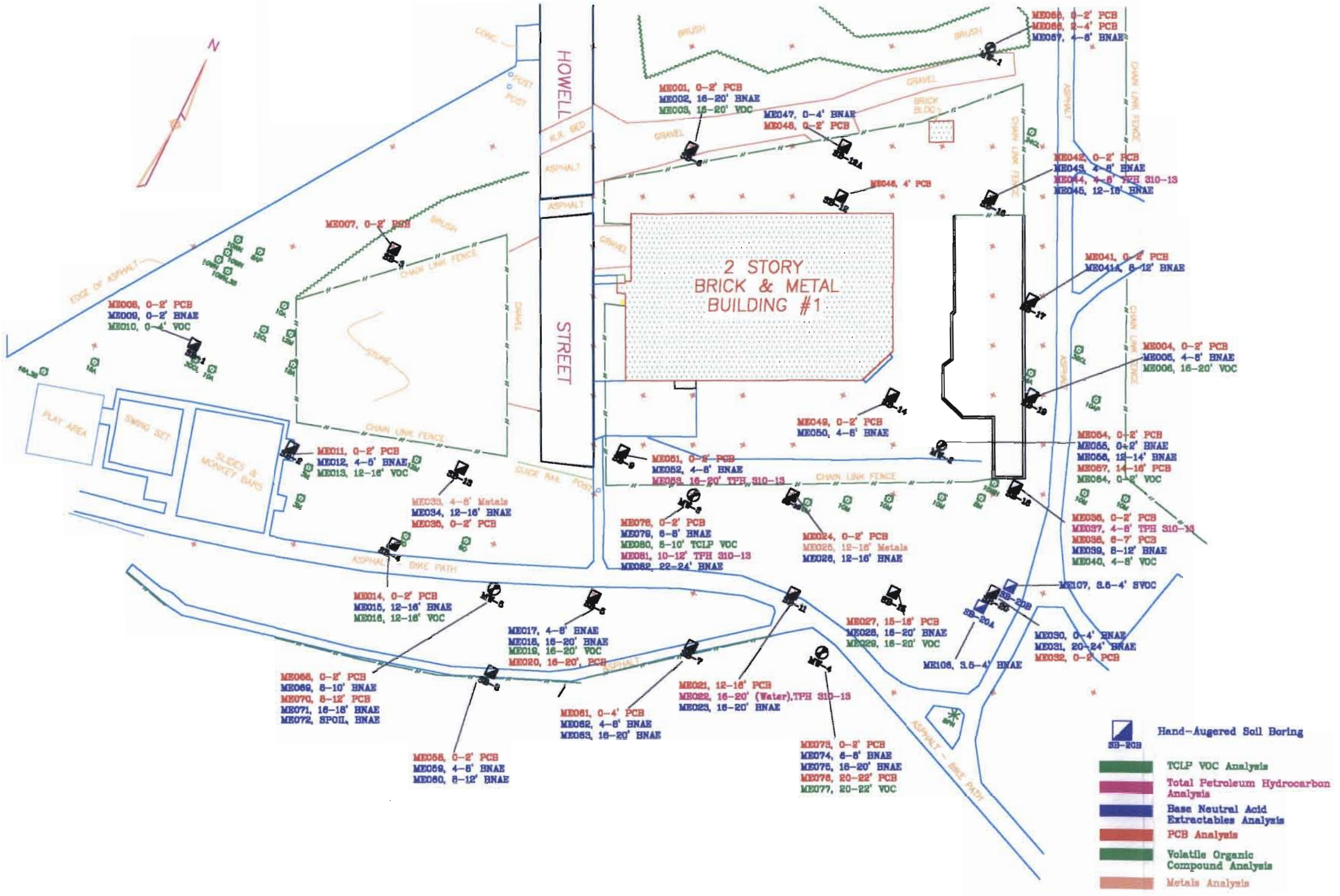
Sampling Results Exceeding TAGM 4046

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 12/17/2001 | DRAWING: Marcon IIWA Fig 8.dwg

SITE: Marcon Erectors Site, Site #915173
Buffalo (C), Erie County

Figure 8



Drawing adapted from:

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ALDEN, NEW YORK 14004
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Soil Sample Locations

DIVISION OF ENVIRONMENTAL REMEDIATION

DATE: 1/07/2002 DRAWING: Marcon IIWA fig 9.dwg

SITE: Marcon Erectors Site, Site #915173
Buffalo (C) Erie County

Figure 9

APPENDICES

APPENDIX 1

MARCON ERECTORS SITE, SITE #915173

BUFFALO (C), ERIE COUNTY

IMMEDIATE INVESTIGATION WORK ASSIGNMENT (IIWA)

PROJECT WORK PLAN

JUNE 2001

I. SITE HISTORY

As early as 1915 the Marcon Erectors site was reputed to have been a heating oil supply facility owned by Friendship Oil. Friendship Oil was then acquired by Ashland Oil Company who, in turn, sold the site in 1970 to B. Hoffman Roofers. In 1981 the current owner purchased the facility and has since utilized the facility for a base of operations that includes the re-manufacture of windows and doors.

On September 28, 1995, The New York State Department of Environmental Conservation (NYSDEC) became aware of potential problems at the site through an anonymous oil spill report. Working with the current owner in September 1997 Safe-T-Kleen, a local oil recycler, was hired to remove the residual sludge from three tanks within a concrete containment area. Two of the tanks are horizontal 10,000 gallon tanks with large openings cut into one end of each tank and the third was a 25,000 gallon tank that had been cut down to approximately 2 feet high.

During the removal action the contractor slurried the sludge material to facilitate pumping with a vacuum truck into lined rolloff containers. Upon arrival to the disposal facility the material was deemed to be off specification because the material had been stabilized with biodegradable sawdust. This resulted in an ongoing RCRA enforcement action. On April 2, 1998, a limited surficial soil sampling effort at the site by the NYSDEC Division of Environmental Remediation indicated the offsite presence of PCB contamination in the soils surrounding the property. The site was listed on the Registry of Inactive Hazardous Waste Sites as a Class 2 site on June 7, 1999.

In January 2001 NYSDEC hired a contractor to complete the removal of the exposed sludges and contamination to prevent further detriment to the environment and to mitigate potential for exposure. The removal action consisted of demolition of the northern wall to allow equipment access, removal of the tanks, removal of contaminated soils to depth. All tank shells were decontaminated and recycled, all hazardous soils were disposed at Chemical Waste Management's Model City facility, and all non-hazardous soils were disposed at CID landfill in Chaffee, New York. Work was suspended at depth when PCBs were less than 10 parts per million. The possibility of widespread petroleum and possibly solvent contamination throughout the site exists.

II. SITE DESCRIPTION

The Marcon Erectors Site is in a mixed residential, commercial and industrial area and is a small manufacturer of reconditioned windows and doors. Located directly south is a moderate to heavy use recreational pathway. Located 625 feet to the west is a playground and 800 feet to the west is an elementary school. Residential areas are directly to the north. The site consists of a split level brick, frame and block building and a concrete containment area that housed three, above ground storage tanks (AST). Two of the tanks were 10,000 gallon horizontal tanks. The third was the remains of a former 25,000 gallon AST which had had the top and sides removed. The containment structure is compromised as noted by the several cracks

in the walls. The bottom of the containment area was soil except for directly under the base of the vertical tank which was concrete. Additionally, concrete was poured inside of the tank for undetermined reasons.

Alleged fuel blending operation before Marcon's purchase of the property had resulted in residual sludge left in the ASTs. NYSDEC sampling of the sludge material indicated Arochlor 1248 as high as 260 mg/Kg. Oil on water in the sludge within the cut off tank had been sampled with PCB results as high as 122 mg/Kg. Soils surrounding the cut off tank indicated PCB results as high as 280 mg/Kg. The sludge was also contaminated with, semi-volatile organic compounds and volatile organic compounds.

Before the removal action exposed material within the cutoff 25,000 gallon AST would fill with precipitation and overflow into a compromised concrete containment area. Evidence of contaminant overflow and migration from the containment area is present. Additionally, past contamination is evident on the side walls of the containment area. Surface sampling adjacent to cracks in the containment area contain PCB contamination as high as 5.8 mg/Kg.

Nearest surface water is the Scajaquada Creek which lies 500 feet to the south. The Black Rock Channel is approximate 2000 feet to the west. Major groundwater trend is anticipated to be to the south but there may be localized influences such as sewers, utility laterals, etc... Substantial contamination from petroleum byproducts and possibly solvents exists through out the property as evidenced in test pitting during the removal action further investigatory work is necessary to completely delineate the problem. A need to identify the areal extent of contamination exists due to the site proximity to the residential areas. This IIWA project will examine areas of concern on and proximate to the Marcon Erectors site.

III. OBJECTIVES OF THE INVESTIGATION

The objectives of this IIWA project are:

- Evaluate the existing subsurface soil and groundwater conditions on and proximate to the known contaminated areas and investigate the nature and degree of any identified contamination within this area.
- Determine if underground storage tank(s) exist and if existing, determine the contents and volume of contents of the tank(s).
- Define and evaluate any potential migration pathways from the given contaminated area(s).
- Attempt to quantify the amount of contamination requiring remediation.
- Affirm the area(s) of concern.
- To determine offsite impacts of contaminant migration.
- Identify any possible Interim Remedial Measures (IRM) that may be needed to address specific problems recognized in the vicinity of the source area during this IIWA project.

IV. SCOPE OF WORK

This IIWA consists of seven separate elements. These elements are: General Site History Review, General Site Survey, Monitoring Well Installation, Sub-surface Soil Sampling Element (I), Sub-surface Soil Sampling Element (II), Underground Storage Tank Investigation and Groundwater Sampling Element. The

primary focus of the IIWA project is to determine the areal extent of contamination proximate to the Marcon Erectors site. Information attained from the IIWA will allow the NYSDEC to address the aforementioned objectives. To attain this information the Standby Work Assignment Contractor (SWAC) or their subcontractor (SC)will install, develop and sample, five - 2" groundwater monitoring wells. In addition, the SWAC or their subcontractor will collect, up to fifteen (15) subsurface soil samples as deemed necessary by the NYSDEC representative. The SWAC or their SC will install up to twenty (20) soil borings by direct push methods such as Geoprobe® or equivalent. In addition, up to thirty (30) subsurface soil samples may be collected as deemed necessary by the NYSDEC representative. The SWAC or their sub-contractor may perform, if feasible, an Electro-Magnetic survey (EM) to attempt to ascertain the presence of underground storage tanks and or transfer pipes.

All sample bottles and laboratory analysis will be provided by NYSDEC. All data interpretations associated with this program (and its elements) will be conducted using NYSDEC equipment and staff unless otherwise specified.

Upon completion of the assignment the SWAC will submit a brief letter report to the NYSDEC which details their involvement with the project. Included in this letter report will be any deliverables required by the contract or of any work item. Also included will be copies of any disposal sampling results, photographs, digital photographs, files, records or manifests.

A site walkover to discuss pertinent items of the work ***is required*** of the SWAC and the Project Manager for the NYSDEC before any of the work is started. Property access will be completed by the NYSDEC with the SWAC designated as an agent for the State at the minimum of 10 days before any work is to commence.

General Site History Review

The SWAC or their subcontractor will complete a historical review of pertinent documents of historical record to determine the past uses of the Marcon Erectors property. It is expected that items of historical significance as relating to this property such as Sanborn Maps®, aerial photos, recorded instruments of property transfer will be consulted. It is expected that aerial photos will be scrutinized for the presence of tanks and building changes within the property limits. This work is not Phase 1 records search and should not include a Freedom of Information request to the NYSDEC, rather, this is a detailed search to determine the historical uses and owners of the property. Deliverables for this item included in the final letter report will include, but are not limited to, a time line description historically significance changes, including changes in the property, existence/removal of structures and legible copies of all photographs, copies of all historic maps consulted or referenced etc...

General Site Survey

At least 5 days prior to the start of the intrusive work, the SWAC will arrange for delineation of all underground utilities. The SWAC will obtain the services of a New York State Department of Education licenced professional land surveyor (PLS) to provide a survey of the Marcon Erectors property and adjacent properties. The Marcon property survey will be complete with building structures and utilities. This survey will include a staked or pinned 50' by 50' grid marked with surface elevations. Within the fenced areas of the property the grid spacing will be reduced to 25' by 25'. The survey will include surface contours at 10 foot intervals to the nearest 10^{th} of a foot and will include any significant contour changes and features. Additionally each of the five monitoring wells will be surveyed for location and top of riser elevation to the nearest 10^{th} of an inch. Deliverables for this portion of the work will include a final completed property and contour map with the above information stamped by a licenced PLS, a electronic copy of this map readable in a format compatible with AutoCAD LT 97, any raw data used in compilation of the map and any field notes.

Groundwater Monitoring Well Installation

A total of five (5) borings will be completed as monitoring wells. Two of the wells will be drilled on the subject property and two of the wells will be completed downgradient of the property between Marcon Erectors and the Scajaquada Creek the fifth will be drilled upgradient of the subject property if practical. The exact location of the two down gradient wells and the upgradient well will be determined by the NYSDEC representative and the SWAC.

Soil borings will be completed with continuous split-spoon samplers in advance of 4.5 inch hollow stem augers. The soil borings will be completed as flush-mounted monitoring wells by the SWAC or their subcontractor under the supervision of the SWAC geologist. The exact depth of the well will be determined by information provided in the initial sampling event but shall not exceed 40 feet unless determined by the NYSDEC. If bedrock is encountered before 40 feet these well installations will extend to bedrock. The total depth of four of these wells will not exceed competent bedrock. The exact depth and screened interval will depend on the water table and bedrock stratigraphy. Prior to constructing these wells, the boreholes will be allowed to stabilize for a limited time to confirm the presence of water and to allow this water to equilibrate. Monitoring wells will be constructed using 2-inch ID threaded, flush-joint, Schedule 40 PVC, with appropriate lengths of 0.010-inch machine slotted well screens. The well screen will be placed to intercept groundwater. It is anticipated that these wells be screened approximately ten feet. However, if determined by the sampling and/or the presence of groundwater that a longer screen is necessary this will be provided.

The fifth and final boring will be located downgradient of the site. If so determined by previous boring attempts and **if deemed necessary by the NYSDEC** this well may be installed into the upper portion of the fractured bedrock. If determined to be necessary, this well will be installed by generally accepted bedrock well installation procedures. This well will be separated from the overburden groundwater by first auguring through the overburden material to at least 6 inches into the bedrock surface. A suitable casing will be socketed into the bedrock and then the borehole will then be sealed with no less that two feet of cement. After the cement has been allowed to cure at least twenty four hours the plug will then be cored with rock core and reemed as necessary to install an open hole rock well. The well will be finished as a lockable flush mount. If there is no evidence that contamination exists, or if any previous borings fail to yield evidence that contamination may exist, or if there is a suitable confining layer that does not show evidence of contamiantion and would most likely prevent downward migration of contamiantion this final well will be installed as the previous four.

All wells will require proper development. The development will be provided by the SWAC or their subcontractors. All water generated by well development will be disposed of in a proper manner by the SWAC. All monitoring well installation and development will generally follow the procedures described in section 4.7 of the attached "New York State Department of Environmental Conservation, Superfund Standby Contract, Program Quality Assurance Project Plan, Contract no. D002472, April 1994, ABB Environmental Services". All wells will be finished as flush mounted wells with appropriate and lockable protective casings and covers. All boring logs will be completed by the SWAC geologist. These logs, as well as any field notes, will be a deliverable quantity of this work assignment. All disturbed areas will be returned to pre-site conditions. Any damage to off-site property or on-site property as deemed necessary by the NYSDEC representative will be corrected at the expense of and by the SWAC. Any waste generated by the work required by this IIWA will be containerized as necessary and disposed of in a proper manner by the SWAC.

All work involving the monitoring well installation will adhere to health and safety procedures for well installations in accordance with the generic health and safety standards established by the SWAC.

Deliverables for this portion of the work will include all boring logs and well installation details and any field notes taken by the SWAC or their SC.

Subsurface Soil Sampling Element (I)

The extracted subsurface soil materials from the split spoon samplers will be described and logged with respect to their geologic character, features, and properties. The extracted subsurface soil materials will be screened visually for signs of obvious contamination. Additionally the materials will be screened for the presence of volatile organic chemicals (VOCs) with a calibrated flame or photo-ionization instrument. All or some part of any subsurface soil interval extracted from a specific monitoring point may be collected as a subsurface soil sample for chemical analysis at the discretion of the NYSDEC representative. Up to fifteen (15) (maximum) subsurface soil samples may be collected for chemical analysis during this IIWA project. This allows for the collection of subsurface soil samples from each of the five (5) (maximum) sample borings specified in this IIWA project. Up to 15 of the samples will be analyzed for PCBs and five of the samples will be analyzed for total VOCs and SVOCs. Up to five samples will be analyzed for total metals and up to five samples may be analyzed for either TCLP or Total VOCs and SVOCs as deemed necessary. The SWAC will provide all equipment necessary for the collection of the samples. The NYSDEC will arrange for all laboratory services and provide all the sampling bottles. The number of subsurface soil samples collected for chemical analysis from any monitoring point is at the discretion of the NYSDEC representative. The selection of subsurface soil materials for submission as a subsurface soil sample will be made at the discretion of the NYSDEC representative and based on:

a.) subsurface soil materials that show visual signs of contamination;

b.) subsurface soil materials that cause a sustained response above the measured background response on a calibrated flame or photo ionization screening instruments;

c.) Predetermined sampling depth or;

d.) a combination of these situations.

After the subsurface soil materials from a particular interval have been described/logged/screened and all subsurface soil samples have been collected for chemical analysis (if applicable), the remaining subsurface soil materials may be discarded at the direction/discretion of the NYSDEC representative. If any of the remaining subsurface soil materials show visual signs of contamination, cause a sustained response above the measured background response on a calibrated flame or photo-ionization screening instrument, or a combination of these situations, those materials should be retained for disposal.

Subsurface Soil Sampling Element (II)

To attain this information the Standby Work Assignment Contractor or their subcontractor (SC) will install at least twenty (20) soil borings by direct push methods such as Geoprobe® or equivalent. Depth of the borings will be 15 to 20 feet in depth but actual depth will be determined by the presence or lack of physical evidence of contamination. All borings will visually scrutinized and be screened for volatile contamination with an appropriate field screening device. In addition, up to thirty (30) subsurface soil samples may be collected as deemed necessary by the NYSDEC representative. All sample bottles and laboratory analysis will be provided by NYSDEC. All data interpretations associated with this program (and its elements) will be conducted using NYSDEC equipment and staff unless otherwise specified.

Boring logs will be completed by the SWAC geologist. All disturbed areas will be returned to pre-site

conditions. Any damage to off-site property or on-site property as deemed necessary by the NYSDEC representative will be corrected at the expense of and by the SWAC or the SC. Any waste generated by the work required by this IIWA will be containerized as necessary and disposed of properly by the SWAC.

All work involving boring installation will adhere to health and safety procedures for such work in accordance with the generic health and safety standards established by the SWAC.

All equipment required to advance a direct push sampling core will be provided by the SWAC or the SC. It must be noted that some of the borings may require an all-terrain probing devices. This is required because the site removal action has left the topography within the containment area uneaven. For the majority of the probes a truck mounted unit will be appropriate.

All borings (probes) will be completed with acetate liners and appropriate sample collection apparatus to minimize cross zone interference. In addition to the required twenty borings the SWAC will allow for additional acetate liners to complete up to ten additional borings. There will be no charge for the liners if returned to the SWAC or their sub-contractor unused. The extracted subsurface soil materials from the liners will be exposed for sampling and geologic interpretation by the SWAC. The SWAC geologist will visually screen extracted subsurface soil materials for signs of obvious contamination. Additionally the materials will be screened for the presence of volatile organic chemicals (VOCs) with a calibrated flame or photo-ionization instrument that has been equipped with an 11.7 eV tip. All soils will be described and logged with respect to their geologic character, features and properties. All or some part of any subsurface soil interval extracted from a specific monitoring point may be collected as a subsurface soil sample for chemical analysis at the discretion of the NYSDEC representative.

Up to thirty (30) subsurface soil samples may be collected for chemical analysis during this portion of the IIWA project. This allows for the collection of subsurface soil samples from each of the twenty (20) sample borings specified in this portion of the IIWA project plus up to ten (10) additional. Up to 30 of the samples will be analyzed for PCBs, 20 of the samples will be analyzed for total VOCs and SVOCs, up to 5 samples will be analyzed for total metals and up to 5 samples may be analyzed for either TCLP or Total VOCs and SVOCs as deemed necessary.

The SWAC will provide all equipment necessary for the collection of the samples the NYSDEC will provide all the sampling bottles as stated above. The number of subsurface soil samples collected for chemical analysis from any one point is at the discretion of the NYSDEC representative. The selection of subsurface soil materials for submission as a subsurface soil sample will be made at the discretion of the NYSDEC representative and based on:

a.) subsurface soil materials that show visual signs of contamination;

b.) subsurface soil materials that cause a sustained response above the measured background response on a calibrated flame or photo ionization screening instrument;

c.) pre-determined sampling depth or;

d.) a combination of these situations.

After the subsurface soil materials from a particular interval have been described/logged/screened and all subsurface soil samples have been collected for chemical analysis (if applicable), the remaining subsurface soil materials may be discarded at the direction/discretion of the NYSDEC representative. If any of the remaining subsurface soil materials show visual signs of contamination, cause a sustained response above the measured background response on a calibrated flame or photo-ionization screening

instrument, or a combination of these situations, those materials should be retained for disposal.

The sampling program and its associated elements will be accomplished with the assistance of the designated Standby Work Assignment Contractor and approved subcontractors as applicable and appropriate. Details of the work distribution for this program are presented in the 'Notice to Proceed' letter issued for this IIWA project unless otherwise specified. Note that all data interpretations associated with this program (and its elements) will be conducted using NYSDEC equipment and staff.

Deliverables for this portion of the work includes, but is not limited to, all boring logs, descriptions and all field notations.

Underground Storage Tank Investigation

There is suspicion of underground storage tank(s) located on the property. The exact location,size or even existence of this/these tank(s) is unknown. The contents of these tank(s) is believed to be petroleum products. The site will first reconnoitered for the presence of fill pipes and/or transfer lines. There are transfer lines extending into the basement and alongside of the onsite building. The SWAC will identify the location of any fill pipe(s) or transfer lines. There is physical evidence of pipes, transfer lines or breather pipes. The SWAC will obtain the services of a subcontractor or perform the necessary geophysical methods (ie:magnetic anomoly survey or EM-61survey with 3 foot line spacing) to determine if underground tanks exist on the property. A deliverable for this work assignment item is a discussion and interpretation of any geophysical data collected by the SWAC or their subcontractors.

If by any of the above mentioned methods there is evidence of existing tanks the SWAC will estimate the size of the tank. Additionally the SWAC will try to determine the contents and the volume of contents (if any). If a tank or tanks exist the SWAC will provide necessary equipment to collect samples. If a phase layer(s) exists, samples will be collected from all layers. Sample bottles and laboratory analysis will be provided by NYSDEC as necessary. All data interpretations associated with this program (and its elements) will be conducted using NYSDEC equipment and staff.

Groundwater Sampling Element

At a minimum, a single groundwater sample will be collected for chemical analysis from each of the five (5) groundwater monitoring wells installed during this IIWA project in order to monitor the water quality within the overburden material. A total of up to five (5) groundwater samples will be collected during this IIWA project allowing for the collection of a groundwater sample from each of the five (maximum) groundwater monitoring wells installed as specified in this IIWA project. The SWAC will measure the static water level with reference to the ground surface and record it along with the time and date for future use in the generation of a groundwater map. The SWAC will then purge groundwater from the installed monitoring point until the pH, specific conductivity, temperature, and turbidity of the extracted water have stabilized. All parameters measured during this process will be recorded along with the time, date, and volume of water extracted. Once the given parameters have stabilized (or at the discretion of the NYSDEC representative), a portion of the groundwater will be collected for chemical analysis. Each of the samples will be analyzed for total metals, semi-volatiles, volatiles, total phenols and total petroleum hydrocarbons in accordance with their respective EPA methods. All groundwater samples collected during this IIWA project will be analyzed by a NYSDOH ELAP certified laboratory. All sample bottles and laboratory analysis will be provided by NYSDEC. All data interpretations associated with this program (and its elements) will be conducted using NYSDEC equipment and staff.

After the applicable groundwater sample collection is complete and all down-probe measurements have been made and recorded, all retrievable equipment will be removed from the monitoring point and either discarded

or cleaned as appropriate using approved methods.

Details of the work distribution for this program are presented in the 'Notice to Proceed' letter issued for this IIWA project unless otherwise specified. Note that all data interpretations associated with this program (and its elements) will be conducted using NYSDEC equipment and staff.

APPENDIX 2

12 Metro Park Road, Albany, New York 12205

November 13, 2001

Mr. Maurice Moore
New York State Department of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203

Subject: **Marcon Erectors Site (#915173)**

Dear Maurice:

As Earth Tech's involvement with this project winds down, I wanted to provide you with a brief report detailing our role in the project.

The NYSDEC prepared the work plan for the project. Kevin McGrath of Earth Tech participated in the required site walkover with you. Earth Tech prepared requests-for-bid documentation for the following tasks as they were described in the work plan: site features and topographic survey and base map preparation; geophysical surveys; DPT and HSA drilling and soil sampling; and monitoring well installation and development. Earth Tech reviewed proposals for these tasks from responsive bidders, and awarded work to three subcontractors on the basis of their responsiveness to the RFP and price for their services. Earth Tech managed these subcontractors, provided field oversight of their work, as needed, and QC'd their deliverables. We developed a site-specific health and safety plan, and notified the UFPO of the upcoming intrusive activities prior to mobilization of the DPT/HSA contractor. We were on site for the startup of the topographic survey crew; for the duration of field activities by the geophysical contractor; and for the duration of field activities (except the final day) by the DPT/HSA contractor. We screened soil samples for the presence of organic vapors, provided written geological descriptions of all subsurface soil samples, and collected soil samples for chemical analysis under your direction. Per your request and contrary to the work plan, Earth Tech did not collect groundwater samples from the monitoring wells. We arranged for proper disposal of four drums of IDW (soil). I provided a limited review of the analytical data map and tables prepared by the NYSDEC.

Telephone
518.458.1313
Facsimile
518.458.2472

Earth Tech ordered and reviewed historical site information to determine past uses of the Marcon Erectors property. Reviewed materials included aerial photographs, historical topographic maps, city directory, chain-of-title search, and Sanborn© maps. The following deliverables have been provided to the NYSDEC:

- A review of the historical site information (two emails);
- Originals (not photocopies) of the historical site information (Sanborns and city directory were emailed);
- Request-for-bid materials, and subcontractor proposals (email & fax);
- Hard copy of site base map and grid map (directly from subcontractor);
- Photocopy of surveyor's field notes (directly from subcontractor);
- Site base map and grid map (email);

- Geophysical survey report (prepared by subcontractor, forwarded by Earth Tech);
- Photocopies of Earth Tech geologist's field notes (comb-bound hard copy), and boring logs (email).

I enjoyed working with you on this project Maurice. Let me know if Earth Tech can help you in the future on this or other sites.

Very truly yours,
Earth Tech, Inc.

Stephen R. Choiniere
Project Manager

APPENDIX 3

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-1** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.5'	**S1**	0' - 4'	0	0 - 0.5'	S1: Black organic soils, furnace debris, coal.	NO WELL INSTALLED	
1						0.5 - 1.5'	fmc SAND a fc GRAVEL, t Silt, t furnace.		1
						1.5 -3.5'	SILT, l Clay, t f Sand, organic roots, brown-light brown color.		
2									2
3									3
4									4
	NA	4'/3.7'	**S2**	4' - 8'	0	0 - 2.0'	S2: fmc SAND a fc GRAVEL, t Silt, t furnace.		
5						2.0 - 3.7'	SILT, s (+) Clay, t Sand, brown.		5
6									6
7									7
8									8
	NA	4'/3.5'	**S3**	8' - 12'	0.0	0 - 3.7'	S3: SILT, l (-) Clay, t f Sand, t f Gravel, brown.		
9									9
10									10
	NA	4'/3.5'	**S4**	12' - 16'	0	0- 3.5'	S4: SILT, l (-) Clay, t f Sand, t f Gravel, brown.		
15									15
							COMPLETE BORING AT 16' BGS		
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal

Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-2** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:	approx 12' BGS may be perched above 15' silt layer	Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3'	S1	0' - 4'	1.4	0 - 2.3'	S1: f SAND, l (+) furnace debris, l (-) fc Gravel, t Silt, brown.	NO WELL INSTALLED	
1						2.3 - 3.0'	SILT, l (-) Clay, t (+) fm Sand.		1
2									2
3									3
4									4
	NA	4'/3.3'	S2	4' - 8'	0	0 - 0.5'	S2: SILT, l (-) Clay, t (+) fm Sand.		
5						0.5 - 1.2'	f SAND, l (+) furnace debris, l (-) fc Gravel, t Silt, brown.		5
6						1.2' - 1.4'	fm SAND a SILT, gray.		6
7						1.4' - 3.3'	SILT, l (-) Clay, t(+), brown.		7
8									8
	NA	4'/2'	S3	8' - 12'	14.7	0 - 1.7'	S3: SILT, s Clay, t fmc Sand, t fm Gravel.		
9						1.7 - 2.0'	fmc SAND, l furnace debris and wood, t (+) Silt, t (+) f Gravel.		9
10							wet, dark brown.		10
	NA	4'/2'	S4	12' - 16'	3.7	0 - 0.3'	S4: Similar to S3 (1.7 - 2.0').		
						0.3 - 2.0'	*SILT, l Clay, t f Sand, t fc Gravel, brown.*		
15									15
	NA	4'/2'	S5	16' - 20'	0.5	0 - 2.0'	S5: SILT, l Clay, t f Sand, t fc Gravel, brown.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo. NY	**Boring ID No.: SB-3** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.2'	S1	0' - 4'	0.5	0 - 0.4'	S1: Dk organic soil. fmc SAND. s fc Gravel. s furnace debris.	NO WELL INSTALLED	
1						0.4 - 1.3'	fc GRAVEL, s(+) fmc Sand, t Silt, gray to light brown color.		1
						1.3' - 3.2'	SILT, l Clay, t f Sand.		
2									2
3									3
4									4
	NA	4'/4'	S2	4' - 8'	1	0 - 4'	S2: SILT, l Clay, t f Sand.		
5									5
6									6
7									7
8									8
	NA	4'3.5'	S3	8' - 12'	0.5	0 - 3.5'	S3: SILT, l Clay, t f Sand.		
9									9
10									10
	NA	4'/2.6'	S4	12' - 16'	0.1	0 - 2.6'	S4: SILT, s Clay, t fine Sand, trace f Gravel, brown to light brown.		
15									15
	NA	4'/2'	S5	16' - 20'	0	0 - 2'	S5: SILT, s Clay, t fine Sand, trace f Gravel, brown to light brown.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-4** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.1'	**S1**	0' - 4'	0	0 - 3.1'	S1: Organic soils, fine SAND, l (-) fc Gravel, t Silt, brown.	NO WELL INSTALLED	
1							Some wood debris also present.		1
2									2
3									3
4									4
	NA	4'/2.6'	**S2**	4' - 8'	0	0 - 1.5'	S2: Brown, fine SAND, l fine+ fc Gravel, t Silt, t concrete.		
5						1.5 - 2.6'	SILT, l (+) Clay, t fine Sand, t fc Gravel, brown.		5
6									6
7									7
8									8
	NA	4'/2'	**S3**	8' - 12'	0.0	0 - 2.0'	S3: SILT, l (+) Clay, t fine Sand, t fc Gravel, brown.		
9									9
10									10
	NA	4'/3'	**S4**	12' - 16'	0	0 - 2.0'	S4: SILT, l (+), t fine Sand, t fc Gravel, brown.		
						2.0-2.15'	*+fmc SAND a SILT, dark brown.*		
						2.15-2.6'	*SILT, l (+), t fmc Sand, t fmc Gravel, brown.*		
						2.6 - 2.8'	+fine SAND a SILT, dark brown.		
						2.8 - 3.0'	+fine SAND a SILT, dark brown.		
15									15
	NA	4'/2'	**S5**	16' - 20'	0	0 - 2.0'	S5: SILT, l (+), t fine Sand, t fc Gravel, brown.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-5** **Well ID No.:** Sheet 1 of 2
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4/3.2'	**S1**	0' - 4'	0.4	0 - 0.2'	S1: fmc SAND, s fc Gravel, t Silt, brown.	NO WELL INSTALLED	
1						0.2 - 3.2'	fc GRAVEL, a (-) fmc SAND s Silt.		1
2									2
3									3
4									4
	NA	4'/2.1'	**S2**	4' - 8'	17.2	0 - 2.1'	S2: fmc SAND a SILT, s fc Gravel, some wood debris, PAH/		
5							naphthalene odor present.		5
6									6
7									7
8									8
	NA	4'/2.7'	**S3**	8' - 12'	0.6	0 - 2.7'	S3: SILT, s fmc SAND, t (+) Clay, t fc Gravel.		
9									9
10									10
	NA	4'/2'	**S4**	12' - 16'	81.3	0 - 2.0'	S4: SILT, s fmc SAND, t (+) Clay, t fc Gravel.		
							black stained soils lowest 0.6' with petroleum (diesel) odor.		
15									15
	NA	4'/0.6'	**S5**	16' - 20'	21.7	0 - 0.6'	S5: SILT, s Clay, t fmc Sand, piece of porcelain, petroleum odor noted.		
20	NA	4'/0'	S6	20' - 24'	NA	0.0'	S6: No recovery.		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal

Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-5** **Well ID No.:** Sheet 2 of 2
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	USCS Class.	Description of Sample	Well Construction	Depth (feet)
21									21
22									22
23									23
24							COMPLETE BORING AT 24' BGS		24
25									25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

oportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Change in Material Type
Change in Deposit Type

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-6** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/20/01	Dated Completed: 8/20/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.5'	**S1**	0' - 4'	22.4	0 - 2.1'	S1: Brown. fmc SAND. a fc GRAVEL. t Silt.	NO WELL INSTALLED	
1						2.1 - 2.5'	fc GRAVEL, some (fmc+) Sand, t Silt.		1
						2.5 - 3.5'	SILT, s Clay, t f Sand.		
2									2
3									3
4									4
	NA	4'/4'	**S2**	4' - 8'	0.4	0 - 4.0'	S2: SILT a CLAY.		
5									5
6									6
7									7
8									8
	NA	4'/3.5'	**S3**	8' - 12'	1.0	0 - 3.5'	S3: Similar to S2.		
9									9
10									10
	NA	4'/2.5'	**S4**	12' - 16'	0.7	0 - 2.5'	S4: SILT a CLAY, t Gravel (one stone).		
15									15
	NA	4'/1.7'	**S5**	16' - 20'	NA	0 - 1.7'	S5: SILT a CLAY.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-7** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/23/01	Dated Completed: 8/23/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.1'	**S1**	0' - 4'	2	0 - 0.3'	S1: Blacktop.	NO WELL INSTALLED	
1						0.3 - 1.4'	fc GRAVEL (crushed), l (+) fmc Sand, t Silt.		1
						1.4 - 3.1'	fmc SAND, s Silt. l(+)fc Gravel.		
2									2
3									3
4									4
	NA	4'/2.3'	**S2**	4' - 8'	2	0 - 1.2'	S2: fc GRAVEL (crushed), l (+) fmc Sand, t Silt.		
5						1.2 - 2.3'	SILT, l(+) fmc Sand, l fc Gravel, t Clay, brown.		**5**
6									6
7									7
8									8
	NA	4'/2.5'	**S3**	8' - 12'	5.9	0 - 2.5'	S3: SILT, t(+) fmc Sand, t(+) Clay, t f Gravel, furnace debris,		
9							brown to black		9
10									**10**
	NA	4'/2.8'	**S4**	12' - 16'	3.8	0 - 2.6'	S4: SILT, t(+) fmc Sand, t(+) Clay, t f Gravel, furnace debris,		
							faint petroleum odor.		
						2.6 -2.8'	*Furnace debris.*		
15									**15**
	NA	4'/2'	**S5**	16' - 20'	46.5	0 - 2.0'	S5: SILT with furnace debris, some Sand and Gravel, black,		
							petroleum odor present.		
20							COMPLETE BORING AT 20' BGS		**20**

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal

Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-8** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/23/01	Dated Completed: 8/23/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.0'	**S1**	0' - 4'	7	0 - 3'	S1: +fmc SAND, s Silt, l fc Gravel, black.	NO WELL INSTALLED	
1									1
2									2
3									3
4									4
	NA	4'/2.4'	**S2**	4' - 8'	5.4	0 - 2.4'	S2: +fmc SAND a SILT, l(-) fc Gravel, t Clay, black.		
5									**5**
6									6
7									7
8									8
	NA	4'/2.7'	**S3**	8' - 12'	1.1	0 - 2.7'	S3: Similar to S2.		
9									9
10									**10**
							COMPLETE BORING AT 12' BGS		
15									**15**
20									**20**

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-9** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/2.2'	S1	0' - 4'	1.4	0 - 0.4'	S1: Organic soils.	NO WELL INSTALLED	
1						0.4 - 2.2'	SILT a fmc SAND, l(+) fmc Gravel, furnace debris.		1
2									2
3									3
4									4
	NA	4'/1.2'	S2	4' - 8'	508	0 - 0.7'	S2: Similar to above, possible fall-in, brown.		
5						0.7' - 1.2'	SILT, l (-) Clay, l fmc Sand, t fc Gravel, furnace debris, strong petroleum odor.		5
6									6
7									7
8									8
	NA	4'/0'	S3	8' - 12'	NA	0'	S3: No recovery.		
9									9
10									10
	NA	4'/0.8'	S4	12' - 16'	NA	0 - 0.8'	S4: SILT, l (-) Clay, t fmc Sand, t fc Gravel, brown.		
15									15
	NA	4'/2'	S5	16' - 20'	155	0-2"	S5: Most likely fall in from above, core very wet and unconsolidated, globules of free product noted on water and soil.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-10** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.1'	**S1**	0' - 4'	0.7	0 - 0.4'	S1: Organic soils, brown.	NO WELL INSTALLED	
1						0.4 - 1.4'	fmc SAND a fc GRAVEL, t Silt, furnace debris also present.		1
						1.4 - 2.2'	SILT, s(+) fmc SAND, t(+) Clay, brown.		
2						2.2 - 3.1'	furnace debris with red brick and gravel.		2
3									3
4									4
	NA	4'/2.6'	**S2**	4' - 8'	174	0 - 2.6'	S2: Furnace debris with red brick and gravel, strong petroleum		
5							odor at bottom of sleeve.		**5**
6									6
7									7
8									8
	NA	4'/1.4'	**S3**	8' - 12'	252.0	0 - 1.4'	S3: Similar to above.		
9									9
10									**10**
	NA	4'/4'	**S4**	12' - 16'	344	0 - 0.6'	S4: Furnace debris, coal, gravel, and sand.		
						0.6 - 4.0'	*SILT, l(+) Clay, t fm Sand, t fc Gravel, brown*		
							with black streaks.		
15									**15**
	NA	4'/0.3'	**S5**	16' - 20'	117	0.4 - 0.7'	S5: SILT, l(+) Clay, t fm Sand, t fc Gravel, reddish brown to		
							brown, water present with petroleum odor.		
20							COMPLETE BORING AT 20' BGS		**20**

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-11** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:	approximately 12 feet bgs.	Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes: * rebored hole because of petroleum in metal tubes used to house acetate sleeves.	Driller's Name: Earth Tech Representative: Owner/Client Rep.:	Larry Schroeder Patrick Armstrong Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.2	S1	0' - 4'	0	0 - 0.4'	S1: Organic soils +fmc SAND, l fc Gravel, t Silt.	NO WELL INSTALLED	
1						0.4 - 2.2'	SILT a fmc SAND a fc Gravel, t(+) Clay.		1
						2.2 - 2.9'	SILT, t Clay, t fmc Sand, fc Gravel.		
2						2.9 - 3.2'	Red brick and furnace debris.		2
3									3
4									4
	NA	4'/2.3'	S2	4' - 8'	0	0 - 0.6'	S2: +fmc SAND, s Silt, l fc Gravel.		
5						0.6 - 2.6'	SILT, t(+) Clay, t fmc Sand, t fin Gravel.		5
6									6
7									7
8									8
	NA	4'/1.2'	S3	8' - 12'	0.0	0 - 1.2'	S3: SILT, l Clay, l fmc Sand, t(+) fc Gravel, wet at bottom of recovery.		
9									9
10									10
	NA	4'/0.6'	S4	12' - 16'	NA	0 - 0.6'	S4: Similar to S3, strong petroleum odor.		
15									15
	NA	4'/1.6'	S5	16' - 20'	45.4	0 - 1.6'	S5: fmc SAND, s Silt, t(+) Clay, strong petroleum odor.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal

Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-12** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.5'	**S1**	0' - 4'	660	0 - 0.1'	S1: Organic soils.	NO WELL INSTALLED	
1						0.1 - 1.1'	SILT, s fine Sand, s fc Gravel, brown.		1
						1.1 - 1.4'	Crushed cement.		
2						1.4 - 3.5'	fine SAND, s fc Gravel, t Silt, furnace debris present, black strong petroleum odor.		2
3									3
4									4
	NA	4'/3.6'	**S2**	4' - 8'	13.2	0 - 0.9'	S2: fine SAND, s fc Gravel, t Silt, furnace debris present.		
5						0.9 - 3.6'	SILT, l Clay, t fine Sand, t fc Gravel, brown.		5
6									6
7									7
8							COMPLETE BORING AT 8' BGS		8
9									9
10									10
15									15
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-12A** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.1'	S1	0' - 4'	726	0 - 2.6'	S1: fmc SAND a fc GRAVEL, l(+) Silt, furnace and red brick debris present.	NO WELL INSTALLED	
1						2.6 - 3.1'	Similar to above but dark stained with strong petroleum odor.		1
2									2
3									3
4									4
	NA	4'/2.8'	S2	4' - 8'	4.9	0 - 0.6'	S2: fmc SAND a SILT, l f Gravel, furnace debris present.		
5						0.6 - 2.8'	SILT, l Clay, t fmc Sand. T fc Gravel, brown.		5
6									6
7									7
8									8
	NA	4'/3.8'	S3	8' - 12'	41.3	0.2 - 0.5'	S3: Similar to lowest recovery from S2.		
9									9
10									10
							COMPLETE BORING AT 12' BGS		
15									15
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-13** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/2.9'	**S1**	0' - 4'	0.8	0 - 0.4'	S1: Organic soils.	NO WELL INSTALLED	
1						0.4 - 1.8'	fmc SAND, s Silt, s fc Gravel.		1
						1.8 - 2.6'	Ash layer with Sand, Gravel and Silt.		
2						2.6 - 2.9'	SILT, t(+), t fmc Sand, fc Gravel.		2
3									3
4									4
	NA	4'/2.6'	**S2**	4' - 8'	0.9	0 - 1.5'	S2: SILT, l Clay, fmc Sand, fc Gravel, furnace debris also found.		
5						1.5 - 2.1'	fmc SAND, l fc Gravel, l Silt, with some furnace debris.		5
						2.1 - 2.6'	SILT, l Clay, t(+) fmc Sand, t fc Gravel.		
6									6
7									7
8									8
	NA	4'/2.5'	**S3**	8' - 12'	0.0	0 - 1.1'	S3: fmc SAND, s fc Gravel, l Silt, t Clay, brown.		
9						1.1 - 2.5'	SILT, l Clay, t fmc Sand, t, fm Gravel, brown.		9
10									10
	NA	4'/1.3'	**S4**	12' - 16'	0.4	0 - 1.3'	S4: SILT, l Clay, t fmc Sand, t, fc Gravel, dark gray ***with black streaks.***		
15									15
	NA	4'/0'	**S5**	16' - 20'	NA	0'	S5: No recovery.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-14** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
1	NA	4'/2.3'	**S1**	0' - 4'	230	0 - 1.7'	S1: fmc SAND s fc Gravel, t Silt, furnace debris. debris present.	NO WELL INSTALLED	1
2						1.7 - 2.3'	fmc SAND a SILT, l f Gravel, furnace debris present, black and gray in color with a strong petroleum odor.		2
3									3
4									4
5	NA	4'/4'	**S2**	4' - 8'	138.0	0 - 0.6'	S2: Similar to upper recovery of S1.		5
6						0.6' - 4.0'	SILT, l Clay, t fmc Sand, t fc Gravel, brown with black streaks.		6
7									7
8									8
9	NA	4'/3.6'	**S3**	8' - 12'	28.7	0 - 3.6'	S3: Similar to lowest S2 recovery.		9
10									10
							COMPLETE BORING AT 12' BGS		
15									15
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-15** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/21/01	Dated Completed: 8/21/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.2'	**S1**	0' - 4'	0.6	0 - 0.3'	S1: Organic soils, fmc SAND.	NO WELL INSTALLED	
1						0.3 - 0.6'	Crushed Gravel, cement, and Sand (fill).		1
						0.6 - 2.5'	SILT, s fmc Sand, l fc Gravel, and debris including cement and		
2							furnace debris.		2
						2.5 - 2.9'	Ash layer		
3						2.9 - 3.2'	Organic fmc Sand.		3
4									4
	NA	4'/3.2'	**S2**	4' - 8'	2.4	0 - 1.1'	S2: SILT, l Clay, t fmc Sand, t fc Gravel		
5						1.1 - 1.4'	Organic material, furnace debris with a PAH/coal tar small.		**5**
						1.4 - 3.2'	SILT, l(+) Clay, t fmc Sand, t fc Gravel, brown, wet.		
6									6
7									7
8									8
	NA	4'/3.1'	**S3**	8' - 12'	0.4	0 -1.8'	S3: SILT, l(+) Clay, t fmc Sand, t fc Gravel, brown.		
9						1.8 - 2.1'	fmc SAND, s(+) fc Gravel, l Silt, brown.		9
						2.1 - 2.7'	SILT, l(+) Clay, t fmc Sand, t fc Gravel, brown.		
10						2.7 - 3.1'	Debris including concrete and furnace debris, with Sand and		**10**
							Gravel.		
	NA	4'/1.6'	**S4**	12' - 16'	113	0 - 0.5'	S4. SILT, l(+) Clay, t fmc Sand, t fc Gravel.		
						0.5 - 1.6'	***Organic material (peat) with debris including ash, cinders and***		
							wood, Sand present with petroleum odor.		
15									**15**
	NA	4'/2.1'	**S5**	16' - 20'	267	0 - 1.6'	S5. Furnace debris and Sand, t Silt.		
						1.6 - 2.1	SILT, l Clay, t fmc Sand, t fc Gravel, dark gray/black with an		
							aged petroleum odor.		
20							COMPLETE BORING AT 20' BGS		**20**

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-16** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/2.7'	**S1**	0' - 4'	479	0 - 0.9'	S1: fmc SAND a fc GRAVEL, t Silt, faint petroleum odor. brown.	NO WELL INSTALLED	
1						1.9-2.7	SILT, l Clay, t fmc Sand, t fc Gravel, brown, petroleum odor.		1
2									2
3									3
4									4
	NA	4'/2.7'	**S2**	4' - 8'	324	0 - 0.9'	S2: SILT, l(-) Clay, t fmc Sand, t fc Gravel, wood debris present, dark brown - black.		
5						0.9 - 2.7'	SILT, l Clay, t fmc Sand, t fc Gravel, brown, petroleum odor present in upper part of recovery more so than lower recovery.		5
6									6
7									7
8									8
	NA	4'/1.4'	**S3**	8' - 12'	159.5	0 - 1.4'	S3: SILT, l(-) Clay, t fmc Sand, t fc Gravel, brown.		
9									9
10									10
	NA	4'/2.4'	**S4**	12' - 16'	96.4	0 - 2.4'	S4: SILT, l(-) Clay, t fmc Sand. t fc Gravel, brown		
15									15
							COMPLETE BORING AT 16' BGS		
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-17** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.7'	S1	0' - 4'	0.3	0 - 0.3'	S1: Organic Soils.	NO WELL INSTALLED	
1						0.3 - 2.2'	fmc SAND, s (-) fc Gravel, t Silt, with furnace debris.		1
						2.2 - 3.7'	SILT, t(+) Clay, t(+)fmc Sand, t f Gravel, trace furnace debris,		
2							brown.		2
3									3
4									4
	NA	4'/2.6	S2	4' - 8'	0.0	0 - 2.6'	S2: SILT, l Clay, t fmc Sand, t f Gravel, brown.		
5									5
6									6
7									7
8									8
	NA	4'/3.7'	S3	8' - 12'	0.0	0 - 0.9'	S3: SILT, t(+) Clay, t (+) +fmc Sand, t f Gravel.		
9						0.9 - 3.7'	SILT, t(+) Clay, t(+)fmc Sand, t f Gravel, trace furnace debris,		9
10							brown.		10
	NA	4'/2.2'	S4	12' - 16'	0.0	0 - 2.2'	S4: SILT, t(+) Clay, t (+) +fmc Sand, t f Gravel.		
15									15
	NA	Refusal	S5	16' - 20'	NA	NA	REFUSAL at 15.5 feet bgs		
							COMPLETE BORING AT 16' BGS		
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-18** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/2.9'	S1	0' - 4'	0	0 - 0.4'	S1: Organic Soils.	NO WELL INSTALLED	
1						0.4 - 2.6'	fmc SAND, s fc Gravel, t Silt, with debris including coal, ash glass, and wood.		1
2						2.6 - 2.9'	SILT, t(+) Clay, t fmc Sand, t fc Gravel.		2
3									3
4									4
	NA	4'/2.2'	S2	4' - 8'	740	0 - 0.8'	S2: SILT, t(+) Clay, t fmc Sand, t fc Gravel, gray.		
5						0.8 - 1.4'	f SAND, s(-) Silt, t f Gravel, with debris (wood).		5
						1.4 - 2.2'	f SAND, s(-) Silt, t f Gravel, gray, with a strong petroleum odor.		
6									6
7									7
8									8
	NA	4'/2.4'	S3	8' - 12'	18.0	0 - 0.4'	S3: f SAND, s(-) Silt, t f Gravel, gray.		
9						0.4 - 1.7'	SILT, l(+) Clay, t fmc Sand, t f Gravel, brown to gray color.		9
10						1.7 - 2.4'	fmc SAND with ash, l(-) fc Gravel, t Silt, dark gray color.		10
	NA	4'/1.6'	S4	12' - 16'	NA		S4: Recovery most likely fall-in.		
15									15
	NA	4'/1.0'	S5	16' - 20'	NA		S5: Recovery most likely fall-in.		
20							COMPLETE BORING AT 20' BGS		20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-19** **Well ID No.:** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/20/01	Dated Completed: 8/20/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: 4' acetate sleeve		Earth Tech Representative:	Patrick Armstrong
Hammer: Vibratory		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: NA			

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3'	**S1**	0' - 4'	NA	0 - 0.4'	S1: Organic soils.	NO WELL INSTALLED	
1						0.4 - 1.6'	fc GRAVEL, s(+) fmc Sand, l organic debris and wood.		1
						1.6 - 2.2'	Furnace debris, coal, brick.		
2						2.2 - 3.0'	+fmc SAND, l (-) debris (coal, porcelain, etc.)		2
3									3
4									4
	NA	4'/3.2'	**S2**	4' - 8'	NA	0 -1.7'	S2: +fmc SAND, t Silt/organics.		
5						1.7 - 3.0'	SILT, s Clay.		**5**
						3.0 - 3.2'	furnace debris, black cardboard, wood, petroleum odor.		
6									6
7									7
8									8
	NA	4'/0.9'	**S3**	8' - 12'	NA		S3: Fall in.		
9									9
10									**10**
	NA	4'/1'	**S4**	12' - 16'	NA		S4. Fall in.		
15									**15**
	NA	4'/0.6'	**S5**	16' - 20'	NA	0 - 0.6'	S5: SILT, s Clay.		
20							COMPLETE BORING AT 20' BGS		**20**

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-20** **Well ID No.:** Sheet 1 of 2
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/ Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0									0
	NA	4'/3.6'	**S1**	0' - 4'	2.5	0 - 0.4'	S1: Organic soils.	NO WELL INSTALLED	
1						0.4 - 2.3'	fmc SAND, l (+) fc Gravel, t Silt, with debris including wood, ash, and cinder/coal.		1
2						2.3 - 3.6'	fmc SAND a SILT, fc Gravel, with furnace debris, faint coal gas odor.		2
3									3
4									4
	NA	4'/3.6	**S2**	4' - 8'	2	0 - 3.4'	S2: SILT, l Clay, t fmc Sand, t fc Gravel.		
5						3.4 - 3.6'	fmc SAND and debris, wet at bottom, faint coal gas odor.		5
6									6
7									7
8									8
	NA	4'/1.7'	**S3**	8' - 12'	0.5	0 - 0.7'	S3: SILT, l Clay, t fmc Sand, t(+) fc Gravel.		
9						0.7 - 1.7'	fmc SAND and SILT, t fc Gravel, and furnace debris		9
10									10
	NA	4'/2.2'	**S4**	12' - 16'	1.5	0 - 1.7'	S4: Unconsolidated, wet, fmc SAND a fc GRAVEL, t Silt, with *wood debris.*		
						1.7 - 2.2'	*SILT, l Clay, t fmc Sand, t fc Gravel.*		
15									15
	NA	4'/1.9'	**S5**	16' - 20'	2.3	0 - 1.9'	S5. fmc SAND a fc GRAVEL, l Silt/Clay, ash, unconsolidated, wet.		
20	NA	4'/1.2'	S6	20' - 24'	6.4	0 - 1.2'	S6: SILT, t(+) Clay, t fmc Sand, t fc Gravel.		20

Proportions Used		Penetration Resistance ("Blow Counts")			
Trace	0 to 10%	Cohesionless Density		Cohesive Consistency	
Little	10 to 20%	0-4	Very Loose	0-2	Very Soft
Some	20 to 35%	5-9	Loose	3-4	Soft
And	35 to 50%	10-29	Med. Dense	5-8	M/Stiff
		30-49	Dense	9-15	Stiff
	Change in Material Type	50+	Very Dense	16-30	Very Soft
	Change in Deposit Type			31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: SB-20** **Well ID No.:** Sheet 2 of 2
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/22/01	Dated Completed: 8/22/01
Depth to First Water:		Drill Type: Geo-Probe	Borehole Dia: 2"
Depth to Static Water:		Drill Rig and Model Number:	Geo-Probe
Stabilization Time:	Not Applicable	Drilling Company:	Buffalo Drilling
Sampler Type: 4' acetate sleeve Hammer: Vibratory Fall: NA	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	USCS Class.	Description of Sample	Well Construction	Depth (feet)
21									21
22									22
23									23
24							COMPLETE BORING AT 24' BGS		24
25									25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal

Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-1** **Well ID No.: MW-1** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/23/01	Dated Completed: 8/24/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
0								Flush mounted	0
	12	24"/18"	S1	0' - 2'	3.4	0 - 18"	S1: fmc SAND, s fc Gravel, l(+) Silt, furnace debris with glass	road box	
1	17						and wood, brown to black.	Concrete:	1
	27							0' to 2' BGS	
2	23								2
	22	24"/17"	S2	2' - 4'	1.6	0 - 2"	S2: Furnace debris.	Well Riser Details:	
3	17					2- 17"	SILT a fmc SAND, fmc Gravel, furnace debris, brown.	0' to 7' BGS	3
	16						Auger to 4' bgs.	2" ID	
4	11							Schedule 40 PVC	4
	7	24"/13"	S3	4' - 6'	1.6	0 - 7"	S3: fmc SAND a SILT, l(-) fc Gravel.		
5	6					7 - 13"	Furnace debris, Sand, Silt, Gravel, wet, dark brown.		5
	4								
6	4								6
	9	24"/21"	S4	6' - 8'	0.4	0 - 2"	S4: +fmc SAND, Silt, brown, wet.	Native fill:	
7	12					2 - 19"	Till deposit, SILT, l Clay, t fmc Sand, t f Gravel, brownish red.	None	7
	19								
8	22							Bentonite Seal:	8
	9	24"/23"	S5	8' - 10'	0.7	0 - 19"	S5: Similar to lowest recovery above.	2' - 4' BGS	
9	18								9
	25							Sand Pack Details:	
10	27							6' to 22' BGS	10
	12	24"/23"	S6	10' - 12'	0.5	0 - 20"	S6: Similar to above.		
	21								
	28								
	28						Auger to 15' bgs.		
								Well Screen Details:	
								7' to 22' BGS	
								2" ID	
								0.010" Slot	
15								Machine Slotted	15
	11	24"/23"	S7	15' - 17'	0.4	0 - 23"	S7: Till deposit, SILT, l Clay, t fmc Sand, t fc Gravel, brownish	Schedule 40 PVC	
	19						red.		
	24								
	25						Auger 20' bgs.		
20									20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-1** **Well ID No.: MW-1** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/23/01	Dated Completed: 8/24/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
21	12 14 19 21	24"/24"	S8	20' - 22'	0.1	0 - 24"	S8: SILT, l(+) Clay, t fine Sand, t f Gravel.		21
22									22
23							COMPLETE BORING AT 22' BGS		23
24									24
25									25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	Boring ID No.: MW-2 Well ID No.: MW- Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/23/01	Dated Completed: 8/23/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: Split spoon		Earth Tech Representative:	Patrick Armstrong
Hammer: 140 lbs		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: 30"			

Depth (feet)	Blow Counts	Penetration/Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction
0								Flush mounted road box
	12	24"/19"	S1	0' - 2'	669	0 - 3"	S1: Organic soils, some furnace debris.	Concrete: 0' to 2' BGS
1	19					3 - 19"	SILT a fine SAND, fine Gravel, furnace debris, brown.	
	26							
2	13							
	49	24"/12"	S2	2' - 4'	669	0 - 5"	S2: SILT, t(+) Clay, t(+) fine Sand, t fin Gravel.	Well Riser Details: 0' to 7' BGS, 2" ID, Schedule 40 PVC
3	14					5 - 12"	SILT a fine SAND, fine Gravel, furnace debris, brown.	
	9						Auger to 4' bgs.	
4	7							
	4	24"/14"	S3	4' - 6'	635	0 - 14"	S3: SILT, s fine Sand, t f Gravel, furnace debris, brown to black.	
5	4							
	4							
6	4							
	3	24"/22"	S4	6' - 8'	131.2	0 - 3"	S4: Furnace debris, with Sand and Silt, black to brown.	Native fill: None
7	4					3 - 18"	SILT, l Clay, t fine Sand, t (+) fin Gravel, black to brown.	
	5							
8	4							Bentonite Seal: 2' - 4' BGS
	4	24"/12"	S5	8' - 10'	159.4	0 - 5"	S5: Similar to lowest recovery above.	
9	3					5 - 12"	Ash with Gravel, Sand a, Silt, black.	
	2							Sand Pack Details: 6' to 22' BGS
10	6							
	5	24"/8"	S6	10' - 12'	277	0 - 8"	S6: Similar to lowest recovery from S5.	
	3							
	3							
	4							
	7	24"/22"	S7	12' - 14'	598	0 - 3"	S7: Similar to S6.	
	6					3 - 22"	SILT, l (-) Clay, t fine Sand, t (+) fin Gravel, brown.	Well Screen Details: 7' to 22' BGS, 2" ID, 0.010" Slot, Machine Slotted, Schedule 40 PVC
	6							
	10							
	6	24"/24"	S8	14' - 16'	216.6	0 - 24"	S8: SILT, l (-) Clay, t fine Sand, t (+) fin Gravel, brown.	
15	12							
	16							
	20							
	36	24"/13"	S9	16' - 18'	11.5	0 - 13"	S9: Similar to S8.	
	50-5"							
							Auger to 22' bgs.	
20								

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	Boring ID No.: MW-2 Well ID No.: MW-2 Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Date Started: 8/23/01	Date Completed: 8/23 01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler	Notes:	Driller's Name:	Larry Schroeder
Type: Split spoon		Earth Tech Representative:	Patrick Armstrong
Hammer: 140 lbs		Owner/Client Rep.:	Maurice Moore - NYSDEC
Fall: 30"			

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
21									21
22									22
23	10 15 18 20	24"/24"	S10	22' - 24'	41.7	0 - 24"	S10: SILT, l Clay, t fine Sand, t fine Gravel.		23
24									24
25							COMPLETE BORING AT 24' BGS		25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-3** **Well ID No.: MW-3** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/24/01	Dated Completed: 8/27/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample
0							
	5	24"/17"	S1	0' - 2'	2.8	0-3"	S1: Upper 3" organic soils.
1	5					3-17"	SAND, s Silt, t(+) fc Gravel, ash present lowest 2" of recovery,
	14						brown to gray.
2	21						
	8	24"/10"	S2	2' - 4'	29.2	0-10"	S2: SAND, s Silt, t(+) fc Gravel, ash present lowest 2" of recovery,
3	9						brown to gray.
	10						Auger to 4' bgs.
4	10						
	8	24"/7"	S3	4' - 6'	46.3	7"	S3: More than half of recovery furnace debris, with s Sand, l
5	5						Gravel, trace Silt, slight petroleum odor in tip of spoon.
	3						
6	3						
	3	24"/14"	S4	6' - 8'	272	0-14"	S4: SILT, t(+) fine Sand, t(+) Clay, t fc Gravel, petroleum odor,
7	2						moist to wet, gray.
	2						Auger to 8' bgs.
8	4						
	2	24"/13"	S5	8' - 10'	410	0-13"	S5: Similar to above but with traces of furnace debris, wet, brown
9	3						to gray.
	2						
10	2						
	2	24"/14"	S6	10' - 12'	314	0-14"	S6: Similar to above, Sand, Gravel and debris in a 3" layer in
	2						middle of recovery.
	4						Auger to 14' bgs.
	4						
	4	24"/17"	S7	14' - 16'	34.1	0-17"	S7: SILT, t(+) Clay, t(+) fine Sand, t(+) fc Gravel, brown, wet,
15	5						petroleum odor present.
	6						
	7						
	8	24"/24"	S8	16' - 18'	14.9	0-24"	S8: SILT, l Clay, t Sand, t gravel, faint petroleum odor, gray.
	8						Auger to 18' bgs.
	9						
	11						
	4	24"/15"	S9	18' - 20'	6.7	0-15"	S9: Similar to above but reddish brown.
	5						
	4						
20	7						

Well Construction	Depth (feet)
Flush mounted road box Concrete: 0' to 2' BGS	0 1 2
Well Riser Details: 0' to 7' BGS 2" ID Schedule 40 PVC	3 4
	5 6
Native fill: None	7
Bentonite Seal: 2' - 4' BGS	8 9
Sand Pack Details: 6' to 22' BGS	10
Well Screen Details: 7' to 22' BGS 2" ID 0.010" Slot Machine Slotted Schedule 40 PVC	15
	20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Nauve Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-3** **Well ID No.: MW-3** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/24/01	Dated Completed: 8/27/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
21	5 6 8 8	24"/24"	S10	20' - 22'	13.0	0-24"	S10: Similar to above.		21
22									22
23	3 4 4 7	24"/15"	S11	22' - 24'	56.7	0-15"	S11: Similar to above, lowest 2 inches native till.		23
24									24
25							COMPLETE BORING AT 24' BGS		25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-4** **Well ID No.: MW-4** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/24/01	Dated Completed: 8/24/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample
0							
	8	24"/17"	S1	0' - 2'	0.3	0-17"	S1: SILT, s fmc Sand, l fc Gravel, 1" of furnace debris, organic
1	16						soils in uppermost recovery, brown.
	16						Auger to 2' bgs.
2	1						
	14	24"/14"	S2	2' - 4'	0.4	0-14"	S2: Similar to above with some wood debris.
3	18						Auger to 4' bgs.
	18						
4	18						
	7	24"/12"	S3	4' - 6'	0.1	0-12"	S3: Similar to above.
5	6						
	8						
6	6						
	8	24"/10"	S4	6' - 8'	0.0	0-10"	S4: SILT, l fmc Sand, t(+) fc Gravel, t Clay, small amount of
7	7						furnace debris present.
	6						Auger to 8' bgs.
8	8						
	12	24"/6"	S5	8' - 10'	0.0	0-6"	S5: Similar to above, concrete present in tip of spoon.
9	7						
	5						
10	7						
	7	24"/5"	S6	10' - 12'	0.2	0-5"	S6: Similar to above, possible fall-in.
	7						Auger to 14' bgs.
	8						
	9						
	2	24"/8"	S7	14' - 16'	0.3	0-8"	S7: Furnace debris, glass, slag, porcelain also contains small
15	2						percentages of Sand, Gravel and Silt, wet.
	3						
	3						
	4	24"/20"	S8	16' - 18'	5.0	0-20"	S8: SILT, l fmc Sand, t fc Gravel, t Clay, small amount of
	3						furnace debris present, brown to black with layers that may be
	3						evidence of historical groundwater fluctuations in lowest 3".
	3						Auger to 18' bgs.
	2	24"/21"	S9	18' - 20'	3.6	0-21"	S9: SILT, t(+) fmc Sand, t(+) Clay, t fc Gravel, furnace debris
	2						present upper 1" of recovery.
	2						
20	2						

Well Construction	Depth (feet)
Flush mounted road box Concrete. 0' to 2' BGS	0 1 2
Well Riser Details: 0' to 7' BGS 2" ID Schedule 40 PVC	3 4
	5
	6
Native fill: None	7
Bentonite Seal: 2' - 4' BGS	8 9
Sand Pack Details: 6' to 22' BGS	10
Well Screen Details: 7' to 22' BGS 2" ID 0.010" Slot Machine Slotted Schedule 40 PVC	15
	20

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal

Riser
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-4** **Well ID No.: MW-4** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/24/01	Dated Completed: 8/24/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
21	3 5 5	24"/15"	S10	20' - 22'	3.6	0-15"	S10: Similar to above but with faint coal tar odor at lowest recovery in spoon. black. Auger to 22' bgs.		21
22	5								22
23	2 3 14	24"/11"	S11	22' - 24'	3.6	0-11"	S11: Debris including glass, slag, wood, ash etc., with trace percentages of Silt, Sand, and Gravel. Backfill 2' void from spoon with filter sandpack and set well at 22' bgs.		23
24	8								24
							COMPLETE BORING AT 24' BGS		
25									25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

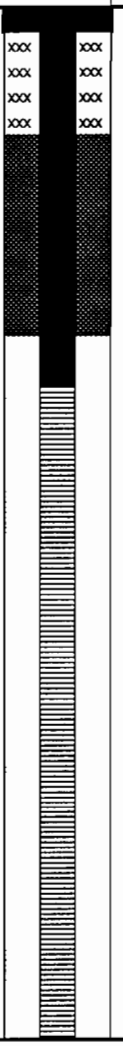
Screen

		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-5** **Well ID No.: MW-5** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/24/01	Dated Completed: 8/24/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration/Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample
0							
	3	24"/16"	S1	0' - 2'	0.0	0 - 14"	S1: Organic soils.
1	9					4 - 16"	SILT a +fmc SAND, fc Gravel, some furnace debris (lowest 2")
	14						brown to black.
2	24						
	50-5"	5"/3"	S2	2' - 4'	1.1	0 - 3"	S2: Furnace debris with Sand and Gravel.
3							
4							
	4	24"/7"	S3	4' - 6'	1.6	0 - 7"	S3: SILT a fc GRAVEL, l(+) fmc Sand, furnace and wood debris,
5	6						brown.
	7						
6	6						
	6	24"/4"	S4	6' - 8'	3.6	0 - 4"	S4: Similar to above, one large piece of Gravel in spoon tip,
7	6						brown.
	7						
8	15						
	10	24"/17"	S5	8' - 10'	0.6	0 - 17"	S5: SILT, l Clay, t fmc Sand, t fc Gravel, moist lower 5", brown,
9	7						upper 2" contains most of Sand and Gravel.
	7						
10	5						
	9	24"/21"	S6	10' - 12'	6.1	0-21"	S6: SILT, l fmc Sand, l(-) Clay, l(-) fc Gravel, brown, furnace
	7						debris in tip of spoon.
	6						Auger to 12' bgs.
	6						
	2	24"/8"	S7	12' - 14'	10.0	0-8"	S7: Similar to above, moist to wet, faint coal tar odor in bottom
	3						of recovery with gray ash present, rest of recovery is dark brown
	14						to black.
	14						
	50-2"	2"/1"	S8	14' - 16'	NA	0-1"	S8: 1 piece of coarse GRAVEL.
15							Auger to 16' bgs.
	2	24"/19"	S9	16' - 18'	1.0	0-19"	S9: SILT, l(-) Clay, l(-) fmc Sand, t fc Gravel, wet lowest 2" of
	2						recovery with faint petroleum and sewage odor dark brown to
	3						black.
	4						Auger to 18'.
	2	24"/12"	S10	18' - 20'	0.0	0-12"	S10: SILT, l(-) Clay, l (-) fmc Sand, wood debris present with some
	2						shell fragments, dark brown, moist to wet.
	2						Auger to 20'.
20	2						

Well Construction

Flush mounted road box
Concrete: 0' to 2' BGS
Well Riser Details: 0' to 7' BGS, 2" ID, Schedule 40 PVC
Native fill: None
Bentonite Seal: 2' - 4' BGS
Sand Pack Details: 6' to 22' BGS
Well Screen Details: 7' to 22' BGS, 2" ID, 0.010" Slot, Maclune Slotted, Schedule 40 PVC



Proportions Used

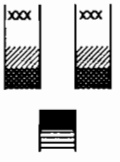
Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type
Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete
Silica Sand Pack
Native Fill
Bentonite Seal
Riser
Screen



		Project: Marcon Erectors Howell Road Buffalo, NY	**Boring ID No.: MW-5** **Well ID No.: MW-5** Sheet 1 of 1
Boring Location:	See site plan	ET Project Manager: Steve Choiniere	Project Number: 46100
Ground Elevation:		Dated Started: 8/24/01	Dated Completed: 8/24/01
Depth to First Water:		Drill Type: HSA	Borehole Dia: 8.25"
Depth to Static Water:		Drill Rig and Model Number:	Hollow Stem Augers (HSA)
Stabilization Time:		Drilling Company:	Buffalo Drilling
Sampler Type: Split spoon Hammer: 140 lbs Fall: 30"	Notes:	Driller's Name:	Larry Schroeder
		Earth Tech Representative:	Patrick Armstrong
		Owner/Client Rep.:	Maurice Moore - NYSDEC

Depth (feet)	Blow Counts	Penetration / Recovery (feet)	Sample I.D.	Sample Depth (feet bgs)	PID (ppm)	Rec Depth	Description of Sample	Well Construction	Depth (feet)
21	3 4 6 4	24"/18"	S11	20' - 22'	0.3	0-24"	S11: Upper 4" of recovery similar to above, lower 14" peat layer. Auger to 22' bgs.		21
22							COMPLETE BORING AT 22' BGS		22
23									23
24									24
25									25
26									26
27									27
28									28
29									29
30									30
35									35
40									40

Proportions Used

Trace	0 to 10%
Little	10 to 20%
Some	20 to 35%
And	35 to 50%

Change in Material Type

Change in Deposit Type

Penetration Resistance ("Blow Counts")

Cohesionless Density		Cohesive Consistency	
0-4	Very Loose	0-2	Very Soft
5-9	Loose	3-4	Soft
10-29	Med. Dense	5-8	M/Stiff
30-49	Dense	9-15	Stiff
50+	Very Dense	16-30	Very Soft
		31+	Hard

Concrete

Silica Sand Pack

Native Fill

Bentonite Seal

Riser

Screen

APPENDIX 4

The EDR-City Directory
Abstract

Marcon Erectros
1 Howell Street
Buffalo, NY 14201

July 19, 2001

Inquiry Number: 657768-2

***The* Source**
For Environmental
Risk Management
Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
City Directory Abstract

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities. ASTM E 1528-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

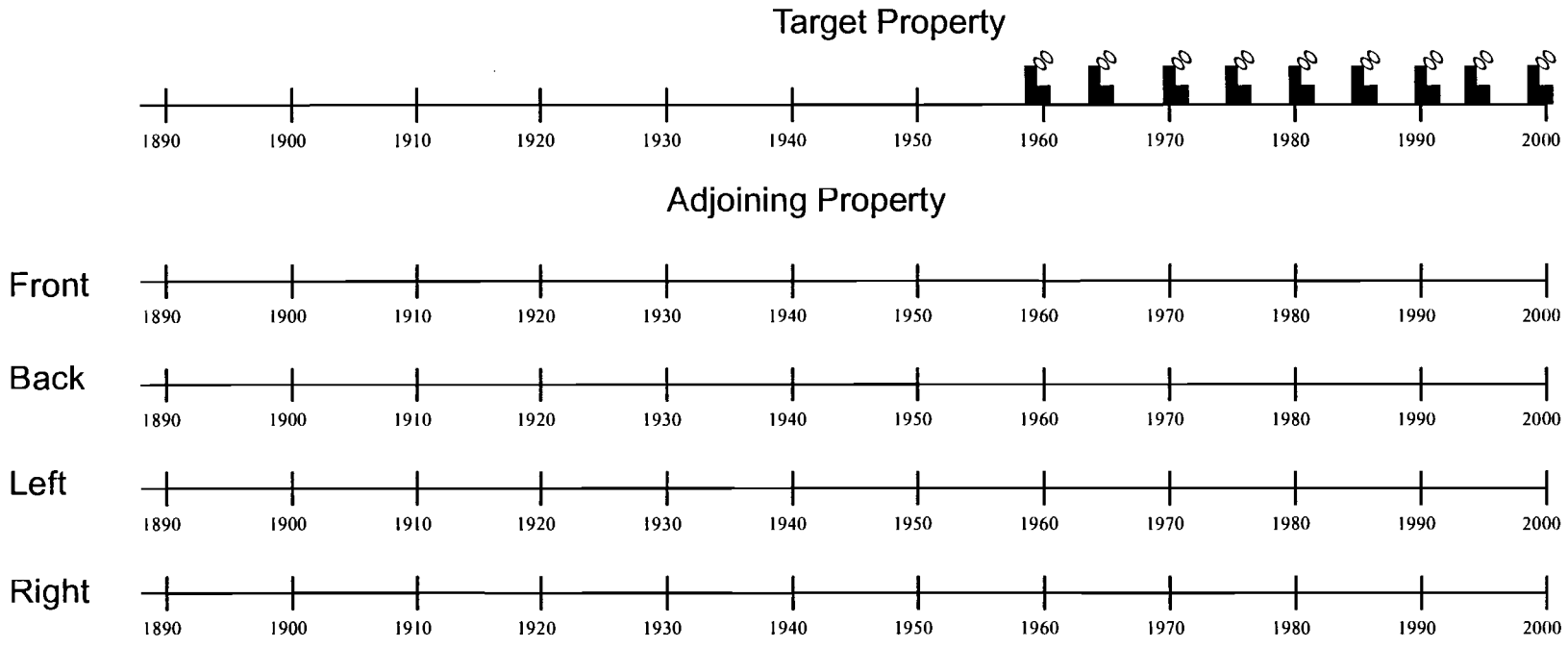
To meet the prior use requirements of ASTM E 1528-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1528-00 requires *All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful.*(ASTM E 1528-00,Section 7.3.4, page 12. EDR's City Directory Abstract includes a search and abstract of available city directory data.

City Directories
City directories have been published for cities and towns across the U.S. since the 1700s. Originally a list of residents, the city directory developed into a sophisticated tool for locating individuals and businesses in a particular urban or suburban area. Twentieth century directories are generally divided into three sections: a business index, a list of resident names and addresses, and a street index. With each address, the directory lists the name of the resident or, if a business is operated from this address, the name and type of business (if unclear from the name). While city directory coverage is comprehensive for major cities, it may be spotty for rural areas and small towns. ASTM E 1528-00 specifies that a *review of city directories (standard historical sources) at less than approximately five year intervals is not required by this practice. (ASTM E 1528-00, Section 7.3.4, page 12.)*

Please call EDR Nationwide Customer Service at
1-800-352-0050 (8am-8pm EST)
with questions or comments about your report.
Thank you for your business!

Environmental Data Resources, Inc.

Prior Use Report® Timeline



Legend:

= Historical Topographic Map (**HT**)

= National Wetland Inventory Map (**WT**) *

= Flood Prone/FEMA Maps (**FP/FR**) *

= Aerial Photos Included (**P**) *

= Aerial Photos Available *

= Residential (**R**)

= Commercial or Industrial (**C**)

Superscript number corresponds to graph ID in text

**Displayed on timeline when aerial photos, flood prone, FEMA, wetland maps, or Aerial Research Summary are purchased.*

Target Property:	Marcon Erectros	**Customer:**	Earth Tech Inc.
Address:	1 Howell Street	**Contact:**	Stephen Choiniere
City/State/Zip:	Buffalo, NY 14201	**Inquiry #:**	657768-2
		Date:	07/19/2001

4. SUMMARY

- ***City Directories:***

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1960 through 2000. (These years are not necessarily inclusive.) A summary of the information obtained is provided in the text of this report.

Date EDR Searched Historical Sources:
City Directories Jul 19, 2001

Target Property:
1 Howell Street
Buffalo, NY 14201

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1960	Frontier Oil Refinery, Bronco Solvents & Chemicals Division		Polk's City Directory
1965	Ashland Oil Refinery, Solvents & Chemicals Division		Polk's City Directory
1971	Ashland Oil Refining, Valvoline Oil Division, Ashland Chemcl		Haines Criss-Cross Directory
1976	B Hoffman Roofers, Niagara Constructors		Haines Criss-Cross Directory
1981	B Hoffman Roofers, D Weigel Studio		Haines Criss-Cross Directory
1986	Marcon Erectors Inc, PDS Contracting Co, D Weigel Studio		Haines Criss-Cross Directory
1991	Marcon Erectors Inc		Haines Criss-Cross Directory
1995	Marcon Erectors Inc		Haines Criss-Cross Directory
2000	Marcon Erectors Inc		Haines Criss-Cross Directory

Adjoining Properties

SURROUNDING
Howell Street
Buffalo, NY 14201

Surrounding Area Property Log of Address Changes
2000 Howell Street

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1960	**Howell Street Addresses**		Polk's City Directory
	-No Listings Prior to TP		
	Residence (34)		
	Address Not Listed in Research Source (35)		
	Residence (36)		
1965	**Howell Street Addresses**		Polk's City Directory
	-No Listings Prior to TP		
	Residence (34)		
	Address Not Listed in Research Source (35)		
	Residence (36)		
1971	**Howell Street Addresses**		Haines Criss-Cross Directory

PUR ID Year	***Uses***	***Portion-Findings (FIM Information Only)***	***Source***
1971 (continued)			
	-No Listings Prior to TP		
	Residence (34)		
	Address Not Listed in Research Source (35)		
	Residence (36)		
1976	**Howell Street Addresses**		Haines Criss-Cross Directory
	-No Listings Prior to TP		
	Residence (34)		
	Address Not Listed in Research Source (35)		
	Residence (36)		
1981	**Howell Street Addresses**		Haines Criss-Cross Directory
	-No Listings Prior to TP		
	Residence (34)		
	No Return (35)		
	Residence (36)		
1986	**Howell Street Addresses**		Haines Criss-Cross Directory
	-No Listings Prior to TP		
	Residence (34)		
	No Return (35)		
	Residence (36)		
1991	**Howell Street Addresses**		Haines Criss-Cross Directory
	-No Listings Prior to TP		
	Residence (34)		
	No Return (35)		
	Residence (36)		
1995	**Howell Street Addresses**		Haines Criss-Cross Directory
	-No Listings Prior to TP		
	Residence (34)		
	No Return (35)		
	Residence (36)		
2000	**Howell Street Addresses**		Haines Criss-Cross Directory
	-No Listings Prior to TP		
	Residence (34)		
	Residence (35)		
	Residence (36)		

Glossary of Terms

A.A.A.

Aerial photograph flyer: Agriculture Adjustment Administration (Federal).

A.S.C.S

Aerial photograph flyer: Agricultural Stabilization and Conservation Service (Federal)

Address Change

Indicates that a change of address has occurred; indicates new address. A change of address may occur when a city, street, or the address ranges of a street are restructured.

Address in Research Source

Indicates that a property is listed at a different address than the one provided by the user. Generally occurs when a property is located on a corner or, when the physical address of a property is different than its mailing address.

Address Not Listed in Research Source

Occurs when a specific site address is not listed in city directories and/or fire insurance maps.

Adjoining

Any property that is contiguous, or a property that would be contiguous if not for a public thoroughfare, to the target property. *To differentiate from each adjoining property, stand at the target property's "front door" facing the street.*

Adjoining Back

Property directly to the rear of the target property.

Adjoining Front

Property directly in front of the target property.

Adjoining Left

Property directly to the left of the target property.

Adjoining Right

Property directly to the right of the target property.

Adjoining Surrounding Area

Property that may adjoin the target property but due to lack of specific map information cannot be located precisely. This situation typically occurs when city directory information, but not fire insurance map information, is available.

C.A.S

Aerial photograph flyer: Chicago Aerial Survey (private).

C.S.S.

Aerial photograph flyer: Commodity Stabilization Service (Federal).

Cartwright

Aerial photograph flyer: Cartwright (private)

CD

City Directory

Commercial

Any property including, but not limited to, property used for industrial, retail, office, agricultural, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units.

Commercial or Industrial

Property that has either a commercial *or* an industrial use. Examples include retail stores, manufacturing facilities, factories, and apartment buildings.

D.N.R.

Aerial photograph flyer: Department of National Resources (state).

D.O.T.

Aerial photograph flyer: Department of Transportation (state).

Fairchild

Aerial photograph flyer: Fairchild (private).

FIM

Fire Insurance Map

Flood Insurance Rate Maps

Flood Insurance Rate Maps are produced by the Federal Emergency Management Agency (FEMA). These maps indicate special flood hazard areas, base flood elevations and flood insurance risk zones.

Flood Prone Area Maps

Flood Prone Area maps are produced by the United States Geological Survey (USGS). Areas identified as flood prone have been determined by available information gathered from past floods.

F.S.

Aerial photograph flyer: Forest Service (Federal).

Geonex

Aerial photograph flyer: Geonex (private).

M.C.

Aerial photograph flyer: Metropolitan Council of the Twin Cities Area (state).

Map Required Not Available in Local Collection

Property is located on a fire insurance map sheet not available in local and/or microfilm collection.

Mark Hurd

Aerial photograph flyer: Mark Hurd (private)

Multiple Locations

Indicates that there are two or more sites adjoining the target property's border.

N.A.P.P.

Aerial photograph flyer: National Aerial Photography Program (Federal).

National Wetland Inventory Maps

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a division of the U.S. Department of the Interior. Wetland and deepwater habitat information is identified on a 7.5 minute U.S.G.S. topographic map. The classification system used categorizes these habitats into five systems: marine, estuarine, riverine, lacustrine and palustrine.

No Return

Indicates that site owner was unavailable at time of surveyor's contact. *Applies only to city directories.*

No Structure Identified on Parcel

Used when site boundaries and/or site address is indicated on a fire insurance map; no structure details exist.

Other

Occurs when the site's classification is different that EDR's standard categories. Examples may include undeveloped land and buildings with no specified function.

P.M.A.

Aerial photograph flyer: Production and Marketing Administration (Federal).

Pacific Aerial

Aerial photograph flyer: Pacific Aerial (private)

Portion

Refers to the fire insurance map information identified on the four quadrants of a target or adjoining property. The portions are referred to as *Frontright*, *Frontleft*, *Backright*, and *Backleft* and are determined as if one were standing at the front door, facing the street.

Property Not Defined

Used when property is not clearly demarcated on a fire insurance map.

Residential

Any property having fewer than five dwelling units used exclusively for residential purposes.

Residential with Commercial Uses (a.k.a. Multiple Purpose Address)

A business (firm) and residence at the same address. Examples include a doctor, attorney, etc. working out of his/her home.

Sidwell

Aerial photograph flyer: Sidwell (private).

Site Not Mapped

Occurs when an adjoining property has not been mapped by fire insurance map surveyors.

Teledyne

Aerial photograph flyer: Teledyne (private)

Topographic Maps

Topographic maps are produced by the United States Geological Survey (USGS). These maps are color coded line and symbol representations of natural and selected artificial features plotted to scale.

Turnbow

Aerial photograph flyer: Michael Turnbow (private)

U.S.D.A.

Aerial photograph flyer: United States Department of Agriculture (Federal).

U.S.D.I.

Aerial photograph flyer: United States Department of the Interior (Federal).

U.S.G.S.

Aerial photograph flyer: United States Geological Survey (Federal).

Vacant

May refer to an unoccupied structure or land. *Used only when fire insurance map or city directory specifies 'vacant.'*

W.P.A.

Aerial photograph flyer: Works Progress Administration (Federal).

WALLACE

Aerial photograph flyer: Wallace (private).

Real Estate Research
& Information

2055 East Rio Salado Parkway
Tempe, Arizona 85281
(480) 967-6752
(480) 966-9422 Fax
www.netronline.com

HISTORICAL CHAIN OF TITLE REPORT

MACRON ELECTROS
118 HOWELL STREET
BUFFALO, NEW YORK

Submitted to:

ENVIRONMENTAL DATA RESOURCES, INC.
C/O
EARTH TECH, INC.
12 Metro Park Road
Albany, New York 12205
(518) 458-1313

Attention: Steve Choiniere

Project No. N01-1214

July 25, 2001

Nationwide Environmental Title Research hereby submits the following ASTM historical chain-of-title to the land described below, subject to the leases/miscellaneous shown in Section 2. Title to the estate or interest covered by this report appears to be vested in:

DOUGLAS GIAMBRONE

The following is the current property legal description:

All that certain piece or parcel of land being further bound and described in the attached vesting deed, lying and situate in the County of Erie, State of New York.

Assessor's Parcel No: 88.36-2-2

2. LEASES AND MISCELLANEOUS

1. No leases or environmental liens were found of record.

NETRonline

Free Publicity

Many tasks of environmental service providers involve informing their clients of potential risks, and acting on behalf of their protection. You can accomplish both of these by submitting your articles to NETRonline.

Promote your business!

Submit your articles to NETRonline to be published both in the Environmental Issues section of web site **www.netronline.com**, and in our newsletter **NETR's Notes**, currently being distributed quarterly to more than 2500 professionals. Links to your services will appear along side your article as well as in our growing directory of nationwide environmental service providers. People will find your solutions adjacent to the identification of potential hazards.

Gain National Exposure!

The Environmental Issues section of NETRonline is a forum for the discussion of today's concerns affecting real estate. Supplementing the Public Records Online portion of our site, we receive more than 300,000 page views monthly by consultants, investors, researchers, developers, and other real estate enthusiasts.

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- Asbestos
- PCBs
- Radon
- Mining
- Watersheds
- Legislation
- Brownsfields
- MTBE
- Storage Tanks
- Air
- Water
- Soil

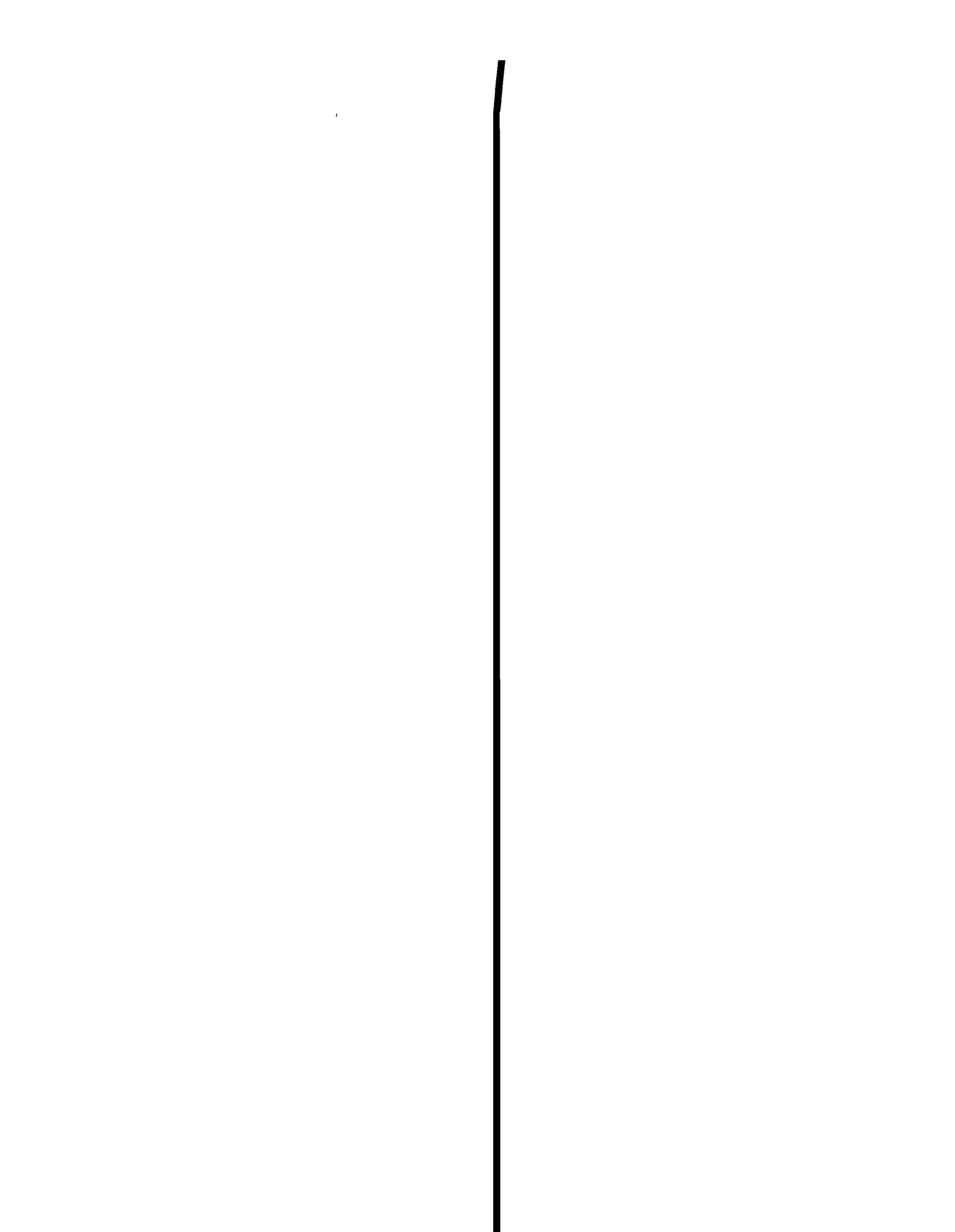
It's Easy!

You may submit your work to NETR Project Manager Greg Streeter at:

2055 East Rio Salado Parkway
Suite 201
Tempe, Arizona 85281

480.967.6752 Voice
480.966.9422 Fax
greg@netronline.com

For examples of recent articles published, visit www.netronline.com/enviss.htm.



The EDR-Historical Topographic Map Report

Marcon Erectros
118 Howell Street
Buffalo, NY 14201

July 18, 2001

Inquiry Number: 656271-3

Environmental Data Resources, Inc.

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.
Historical Topographic Map Report

Environmental Data Resources, Inc.'s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property, and its surrounding area, resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable is defined as information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

To meet the prior use requirements of ASTM E 1527-00, Section 7.3.2, the following *standard historical sources* may be used: aerial photographs, city directories, fire insurance maps, topographic maps, property tax files, land title records (although these cannot be the sole historical source consulted), building department records, or zoning/and use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.2 page 11.)

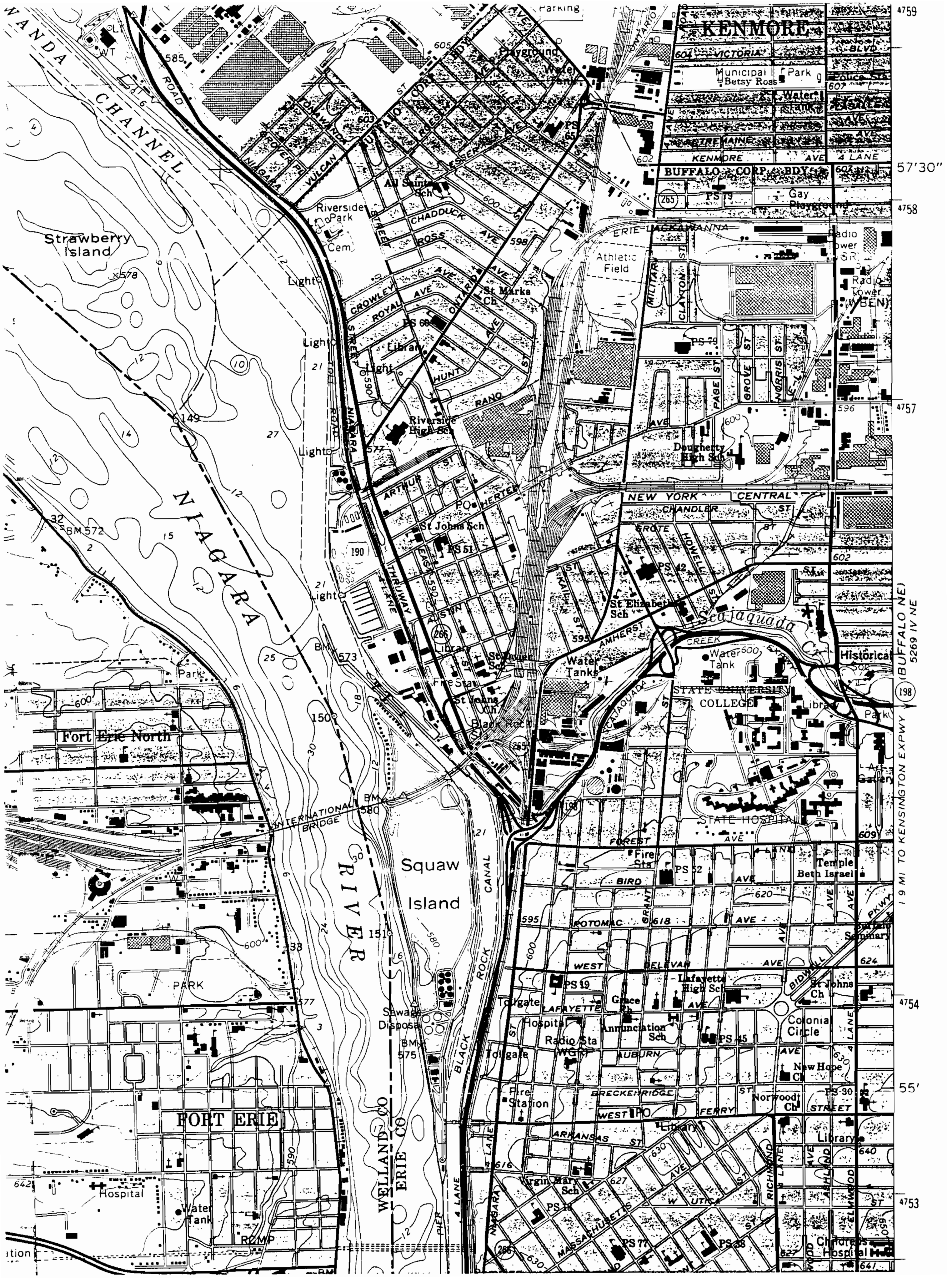
EDR's Historical Topographic Map Report includes a search of available public and private color historical topographic map collections.

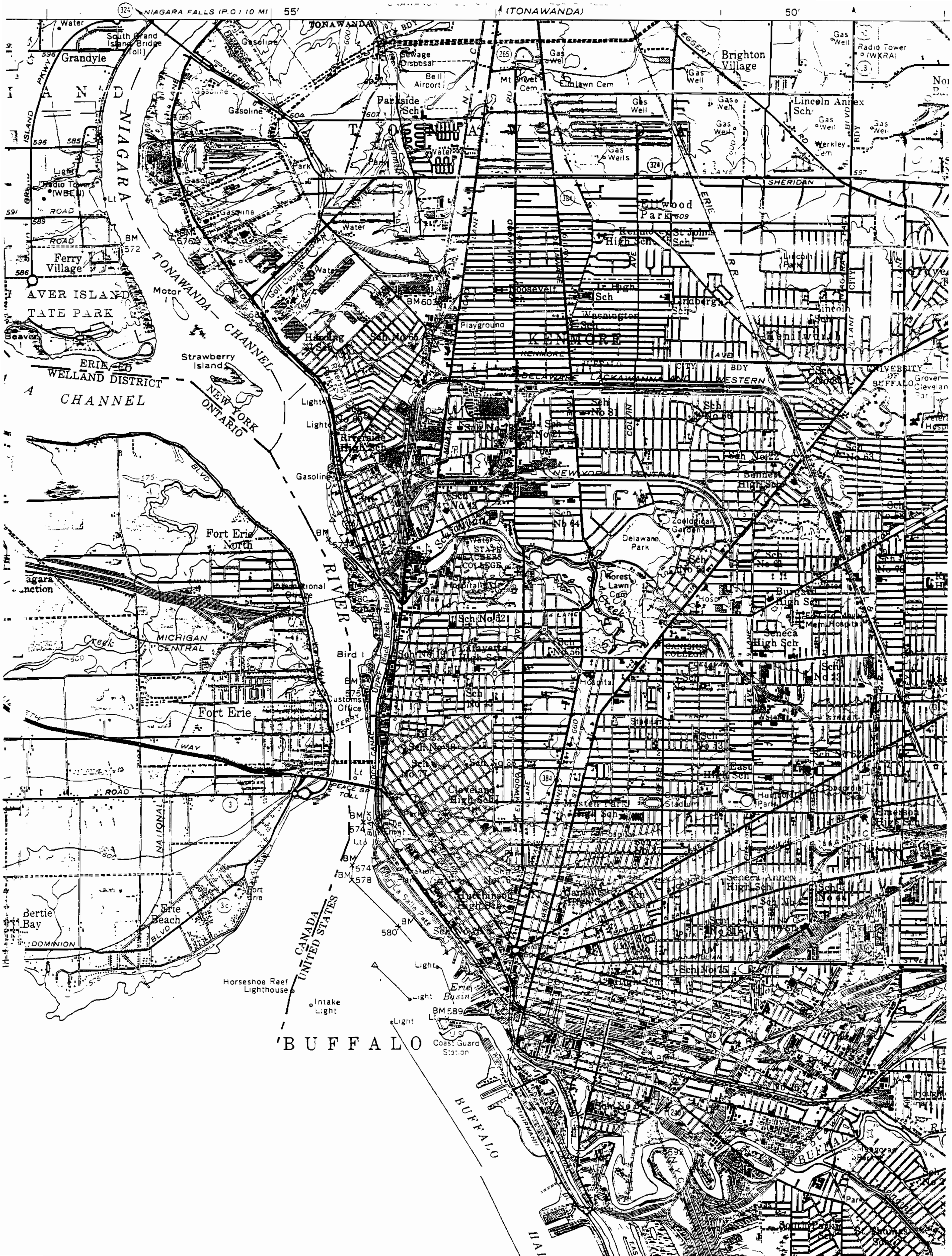
Topographic Maps

A topographic map (topo) is a color coded line-and-symbol representation of natural and selected artificial features plotted to a scale. Topos show the shape, elevation, and development of the terrain in precise detail by using contour lines and color coded symbols. Many features are shown by lines that may be straight, curved, solid, dashed, dotted, or in any combination. The colors of the lines usually indicate similar classes of information. For example, topographic contours (brown); lakes, streams, irrigation ditches, etc. (blue); land grids and important roads (red); secondary roads and trails, railroads, boundaries, etc. (black); and features that have been updated using aerial photography, but not field verified, such as disturbed land areas (e.g., gravel pits) and newly developed water bodies (purple).

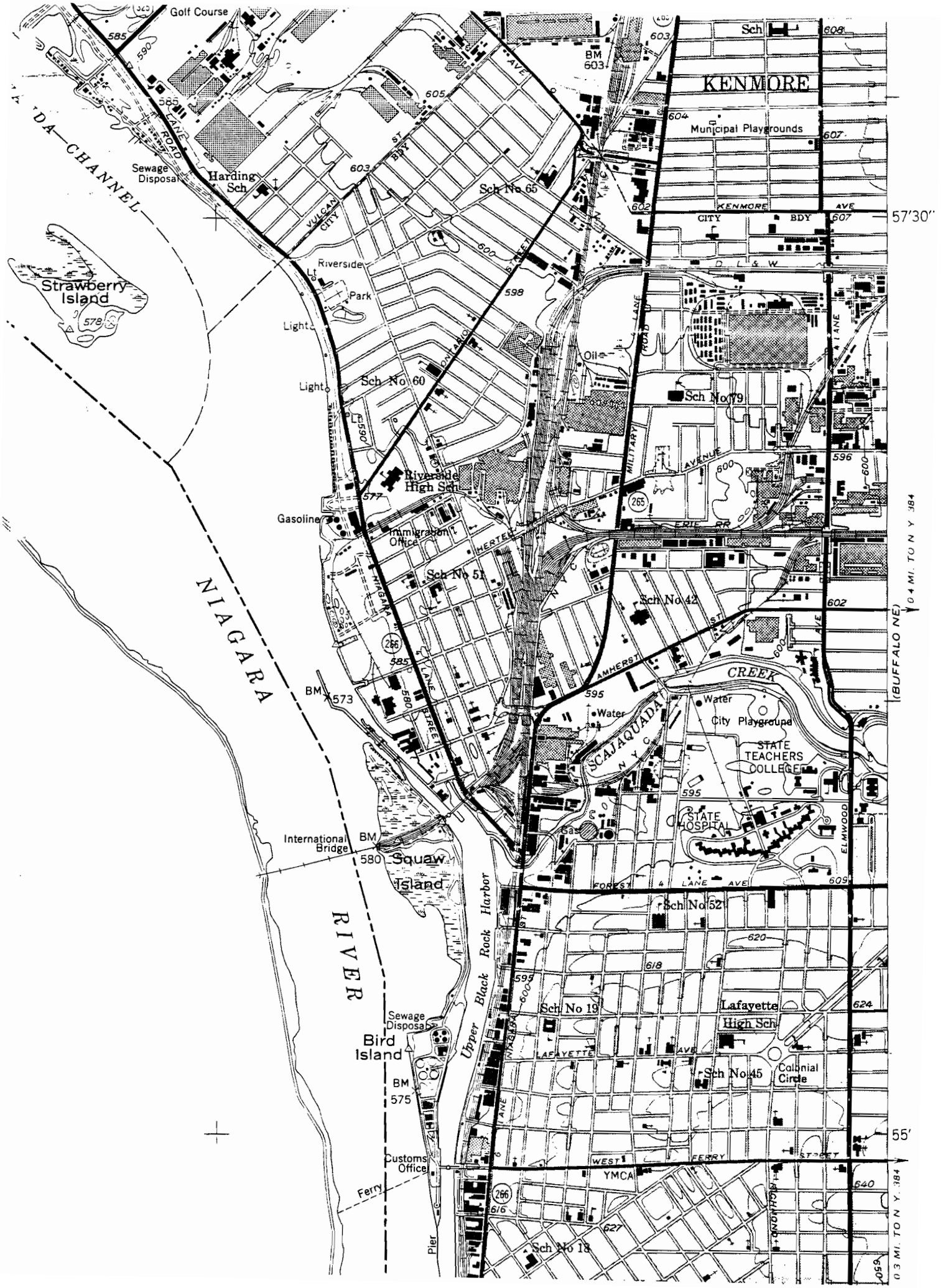
For more than a century, the USGS has been creating and revising topographic maps for the entire country at a variety of scales. There are about 60,000 U.S. Geological Survey (USGS) produced topo maps covering the United States. Each map covers a specific quadrangle (quad) defined as a four-sided area bounded by latitude and longitude. Historical topographic maps are a valuable historical resource for documenting the prior use of a property and its surrounding area, and due to their frequent availability can be particularly helpful when other standard historical sources (such as city directories, fire insurance maps, or aerial photographs) are not reasonably ascertainable.

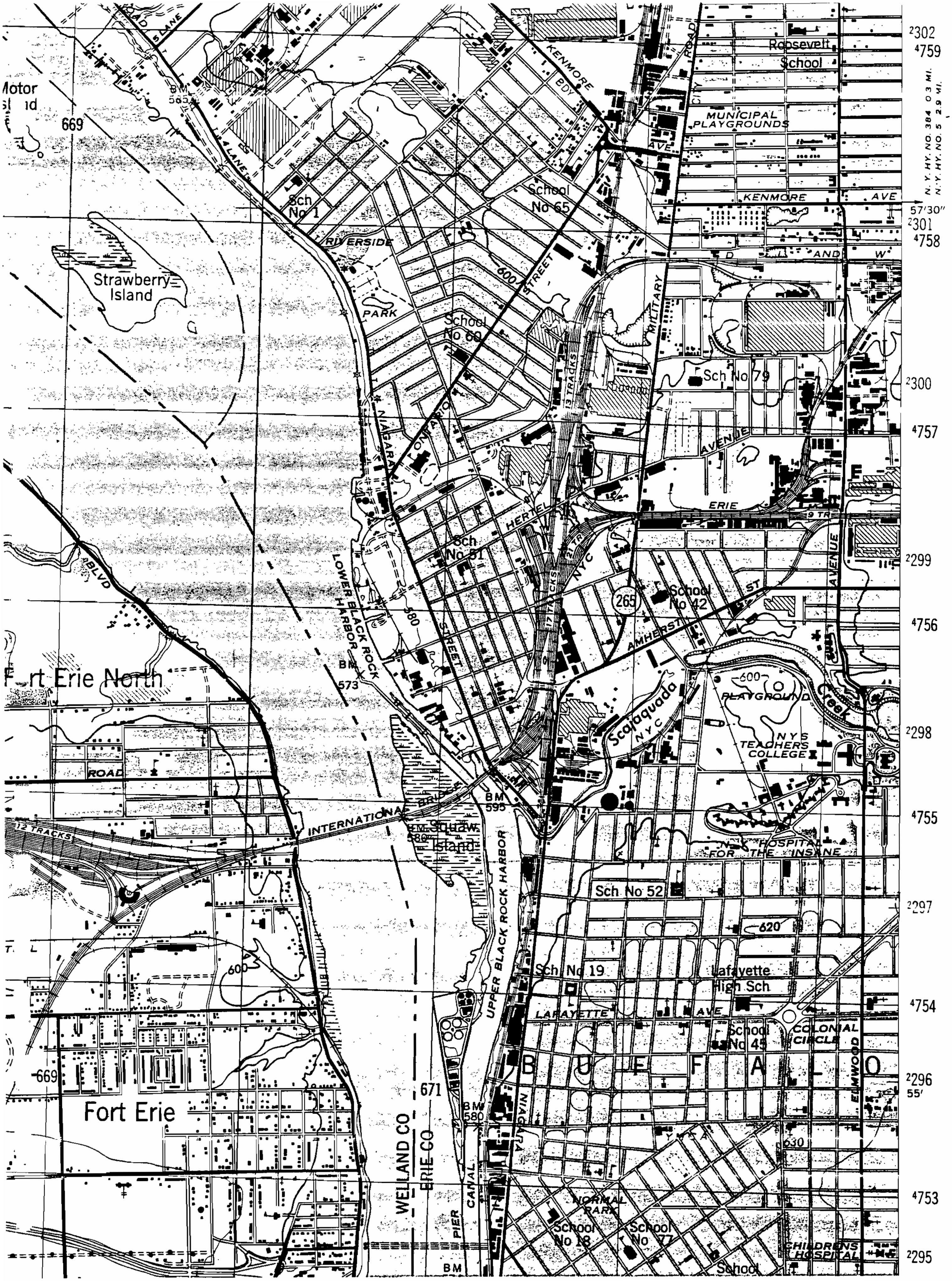
Please call EDR Nationwide Customer Service at
1-800-352-0050 (8am-8pm ET)
with questions or comments about your report.
Thank you for your business!


KENMORE
BUFFALO CORP BDY
Strawberry Island
Riverside Park
Cem
Light
All Saints Sch
CHADDUCK AVE
ROSS AVE
CROWLEY AVE
ROYAL AVE
St Marks Ch
PS 60
Library
HUNT
RAND
Riverside High Sch
ARTHUR ST
HERTEL
PO
St Johns Sch
PS 51
AUSTIN
THRUWAY
NIAGARA RIVER
NIAGARA ST
TONAWANDA CHANNEL
ERIE-LACKAWANNA
Athletic Field
MILITARY
CLAYTON
PS 79
Radio Tower
Radio Tower (WBEN)
Municipal Park
Betsy Ross
VICTORIA
KENMORE AVE 4 LANE
TREMAINE
Playground
Water Tank
PS 65
Gay Playground
PAGE
GROVE
NORRIS
Dougherty High Sch
NEW YORK CENTRAL
CHANDLER ST
GROTE ST
HOWELL
PS 42
St Elizabeths Sch
AMHERST
Scajaquada Cr
CREEK
Water Tank
Water Tanks
STATE UNIVERSITY COLLEGE
Library
Historical
Park
Art Gallery
STATE HOSPITAL
FOREST AVE
Fire Sta
PS 52
BIRD AVE
Temple Beth Israel
POTOMAC AVE
WEST DELEVAN AVE
Buffalo Seminary
Lafayette High Sch
PS 19
Tollgate
LAFAYETTE AVE
Grace Ch
Hospital
Annunciation Sch
Radio Sta WGR
AUBURN
PS 45
St Johns Ch
Colonial Circle
New Hope Ch
BIDWELL PKWY
ELMWOOD
BRECKENRIDGE ST
Norwood Ch
PS 30
Fire Station
WEST FERRY STREET
PO
Library
ARKANSAS ST
Virgin Mary Sch
PS 18
MASSACHUSETTS AVE
W UTICA ST
RICHMOND
ASHLAND
PS 77
PS 38
Childrens Hospital
Fire Sta
St Johns Ch
Black Rock
Squaw Island
Sewage Disposal
BLACK ROCK CANAL
PIER
WELLAND CO
ERIE CO
INTERNATIONAL BRIDGE
Fort Erie North
Park
PARK
FORT ERIE
Hospital
Water Tank
RUMP
1.9 MI TO KENSINGTON EXPWY
(BUFFALO NE) 5269 IV NE
4759
57'30"
4758
4757
4754
55'
4753



NIAGARA FALLS (P.O.) 10 MI
55′
(TONAWANDA)
50′
TONAWANDA
Grandyle
South Grand Island Bridge (Toll)
Sewage Disposal
Bell Airport
Brighton Village
Radio Tower (WKRA)
Mt Olivet Cem
Elmlawn Cem
Parkside Sch
Lincoln Annex Sch
Werkley Cem
Gas Wells
SHERIDAN
Radio Tower (WBEN)
Ferry Village
NIAGARA
Ellwood Park
Kenmore High Sch
St Johns Sch
Lincoln Park
TONAWANDA CHANNEL
Roosevelt Sch
Lindbergh Sch
Washington Sch
Playground
KENMORE
Strawberry Island
ERIE CO
WELLAND DISTRICT
CHANNEL
NEW YORK
ONTARIO
UNIVERSITY OF BUFFALO
DELAWARE
LACKAWANNA
WESTERN
Riverside High Sch
NEW YORK CENTRAL
Bennett High Sch
Gasoline
Fort Erie North
Zoological Garden
Delaware Park
STATE TEACHERS COLLEGE
Forest Lawn Cem
RIVER
International Bridge
MICHIGAN CENTRAL
Creek
Bird I
Seneca High Sch
Lafayette High Sch
CANISIUS COLLEGE
Customs Office
Fort Erie
FERRY
WAY
PEACE BR TOLL
ROAD
NATIONAL
Cleveland High Sch
Masten Park High Sch
East High Sch
Humboldt Park
Emerson
Seneca Annex High Sch
Hutchinson High Sch
Fort Erie
Erie Beach
Bertie Bay
DOMINION
BLVD
CANADA
UNITED STATES
Horseshoe Reef Lighthouse
Intake Light
Erie Basin
Coast Guard Station
BUFFALO
BUFFALO
La Salle Park
South Park


Golf Course
KENMORE
Municipal Playgrounds
Sch
Harding Sch
Sewage Disposal
Sch No 65
Riverside Park
Strawberry Island
Light
Sch No 60
Riverside High Sch
Gasoline
Immigration Office
Sch No 51
Sch No 79
Oil
Sch No 42
Water
City Playground
STATE TEACHERS COLLEGE
STATE HOSPITAL
CREEK
SCAJAQUADA
NIAGARA RIVER
International Bridge
Squaw Island
Upper Black Rock Harbor
Bird Island
Sewage Disposal
Customs Office
Ferry
Pier
Sch No 52
Sch No 19
Lafayette High Sch
Sch No 45
Colonial Circle
YMCA
Sch No 18
DA—CHANNEL
57'30"
55'
0.4 MI. TO N Y 384
(BUFFALO NE)
0.3 MI. TO N Y 384


Motor Island
Strawberry Island
Fort Erie North
Fort Erie
Squaw Island
B U F F A L O
Roosevelt School
MUNICIPAL PLAYGROUNDS
KENMORE AVE
School No 65
Sch No 1
RIVERSIDE PARK
School No 60
Sch No 79
MILITARY
AVENUE
ERIE
HERTEL
Sch No 51
School No 42
AMHERST ST
LOWER BLACK ROCK HARBOR
UPPER BLACK ROCK HARBOR
Scajaquada Creek
PLAYGROUND
NYS TEACHERS COLLEGE
NYS HOSPITAL FOR THE INSANE
INTERNATIONAL BRIDGE
12 TRACKS
Sch No 52
Sch No 19
Lafayette High Sch
LAFAYETTE AVE
School No 45
COLONIAL CIRCLE
ELMWOOD
NIAGARA
WELLAND CO
ERIE CO
PIER
CANAL
NORMAL PARK
School No 18
School No 77
CHILDRENS HOSPITAL
School
KENMORE BDY
NIAGARA STREET
ONTARIO
NYC
265
BM 585
BM 573
BM 595
BM 586
BM 580
669
671
600
620
630
ROAD
BLVD
²302
⁴759
57'30"
²301
⁴758
²300
⁴757
²299
⁴756
²298
⁴755
²297
⁴754
²296
55'
⁴753
²295
N.Y. HY. NO. 384 0.3 MI.
N.Y. HY. NO. 5 2.9 MI.

The EDR-Aerial Photography Print Service

Marcon Erectros
118 Howell Street
Buffalo, NY 14201

July 16, 2001

Inquiry Number: 656271-6

Environmental Data Resources, Inc.

The Source For Environmental Risk Management Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802

Environmental Data Resources, Inc.

Aerial Photography Print Service

Environmental Data Resources, Inc.'s (EDR) Aerial Photography Print Service is a screening tool designed to assist professionals in evaluating potential liability on a target property resulting from past activities. ASTM E 1527-00, Section 7.3 on Historical Use Information, identifies the prior use requirements for a Phase I environmental site assessment. The ASTM standard requires a review of *reasonably ascertainable standard historical sources. Reasonably ascertainable means information that is publicly available, obtainable from a source with reasonable time and cost constraints, and practically reviewable.*

To meet the prior use requirements of ASTM E 1527-00, Section 7.3.4, the following *standard historical sources* may be used: aerial photographs, fire insurance maps, property tax files, land title records (although these cannot be the sole historical source consulted), topographic maps, city directories, building department records, or zoning/land use records. ASTM E 1527-00 requires *"All obvious uses of the property shall be identified from the present, back to the property's obvious first developed use, or back to 1940, whichever is earlier. This task requires reviewing only as many of the standard historical sources as are necessary, and that are reasonably ascertainable and likely to be useful."* (ASTM E 1527-00, Section 7.3.4, page 12.

Aerial Photographs

Aerial photographs are a valuable historical resource for documenting past land use and can be particularly helpful when other historical sources (such as city directories or fire insurance maps) are not reasonably ascertainable. The EDR Aerial Photograph Print Service includes a search of aerial photograph collections flown by public and private agencies for the state of New York. EDR's professional field-based researchers provide digitally reproduced historical aerial photographs at approximately ten year intervals.

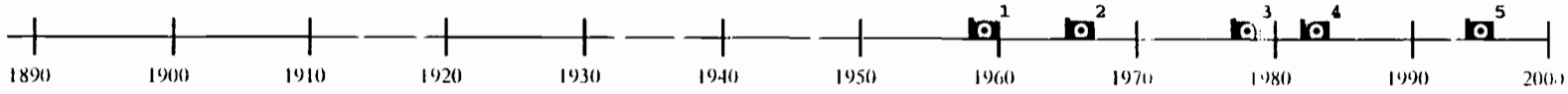
4. SUMMARY

- *Aerial Photographs:*

Environmental Data Resources, Inc.

Prior Use Report® Timeline

Target Property



Search Not Requested

Search Not Requested

Search Not Requested

Search Not Requested

Legend:

= Historical Topographic Map (**HT**)

= National Wetland Inventory Map (**WT**) *

= Flood Prone/FEMA Maps (**FP/FR**) *

= Aerial Photos Included (**P**) *

= Aerial Photos Available *

= Residential (**R**)

= Commercial or Industrial (**C**)

Superscript number corresponds to graph ID in text

*Displayed on timeline when aerial photos, flood prone, FEMA, wetland maps, or Aerial Research Summary are purchased

Target Property:	Marcon Erectros	**Customer:**	Earth Tech Inc.
Address:	118 Howell Street	**Contact:**	Steve Choiniere
City/State/Zip:	Buffalo, NY 14201	**Inquiry #:**	656271-6
		Date:	07/16/01

Glossary of Terms

A.A.A.

Aerial photograph flyer: Agriculture Adjustment Administration (Federal).

A.S.C.S

Aerial photograph flyer: Agricultural Stabilization and Conservation Service (Federal)

Address Change

Indicates that a change of address has occurred; indicates new address. A change of address may occur when a city, street, or the address ranges of a street are restructured.

Address in Research Source

Indicates that a property is listed at a different address than the one provided by the user. Generally occurs when a property is located on a corner or, when the physical address of a property is different than its mailing address.

Address Not Listed in Research Source

Occurs when a specific site address is not listed in city directories and/or fire insurance maps.

Adjoining

Any property that is contiguous, or a property that would be contiguous if not for a public thoroughfare, to the target property. *To differentiate from each adjoining property, stand at the target property's "front door" facing the street.*

Adjoining Back

Property directly to the rear of the target property.

Adjoining Front

Property directly in front of the target property.

Adjoining Left

Property directly to the left of the target property.

Adjoining Right

Property directly to the right of the target property.

Adjoining Surrounding Area

Property that may adjoin the target property but due to lack of specific map information cannot be located precisely. This situation typically occurs when city directory information, but not fire insurance map information, is available.

C.A.S

Aerial photograph flyer: Chicago Aerial Survey (private).

C.S.S.

Aerial photograph flyer: Commodity Stabilization Service (Federal).

Cartwright

Aerial photograph flyer: Cartwright (private)

CD

City Directory

Date EDR Searched Historical Sources:
Aerial Photography July 16, 2001

Target Property:
118 Howell Street
Buffalo, NY 14201

PUR ID *Year*	*Uses*	*Portion-Findings (FIM Information Only)*	*Source*
1 1959	Aerial Photograph. Scale: 1"=750'	Panel #: 2442078-H8/Flightdate: May 8, 1959	nar
2 1966	Aerial Photograph. Scale: 1"=750'	Panel #: 2442078-H8/Flightdate: June 12, 1966	nar
3 1978	Aerial Photograph. Scale: 1"=833'	Panel #: 2442078-H8/Flightdate: October 31, 1978	nar
4 1983	Aerial Photograph. Scale: 1"=750'	Panel #: 2442078-H8/Flightdate: March 17, 1983	nar
5 1995	Aerial Photograph. Scale: 1"=833'	Panel #: 2442078-H8/Flightdate: March 28, 1995	nar

National Wetland Inventory Maps

National Wetland Inventory Maps are produced by the U.S. Fish and Wildlife Service, a division of the U.S. Department of the Interior. Wetland and deepwater habitat information is identified on a 7.5 minute U.S.G.S. topographic map. The classification system used categorizes these habitats into five systems: marine, estuarine, riverine, lacustrine and palustrine.

No Return

Indicates that site owner was unavailable at time of surveyor's contact. *Applies only to city directories.*

No Structure Identified on Parcel

Used when site boundaries and/or site address is indicated on a fire insurance map; no structure details exist.

Other

Occurs when the site's classification is different that EDR's standard categories. Examples may include undeveloped land and buildings with no specified function.

P.M.A.

Aerial photograph flyer: Production and Marketing Administration (Federal).

Pacific Aerial

Aerial photograph flyer: Pacific Aerial (private)

Portion

Refers to the fire insurance map information identified on the four quadrants of a target or adjoining property. The portions are referred to as *Frontright*, *Frontleft*, *Backright*, and *Backleft* and are determined as if one were standing at the front door, facing the street.

Property Not Defined

Used when property is not clearly demarcated on a fire insurance map.

Residential

Any property having fewer than five dwelling units used exclusively for residential purposes.

Residential with Commercial Uses (a.k.a. Multiple Purpose Address)

A business (firm) and residence at the same address. Examples include a doctor, attorney, etc. working out of his/her home.

Sidwell

Aerial photograph flyer: Sidwell (private).

Site Not Mapped

Occurs when an adjoining property has not been mapped by fire insurance map surveyors.

Teledyne

Aerial photograph flyer: Teledyne (private)

Topographic Maps

Topographic maps are produced by the United States Geological Survey (USGS). These maps are color coded line and symbol representations of natural and selected artificial features plotted to scale.

Turnbow

Aerial photograph flyer: Michael Turnbow (private)

Commercial

Any property including, but not limited to, property used for industrial, retail, office, agricultural, other commercial, medical, or educational purposes; property used for residential purposes that has more than four residential dwelling units.

Commercial or Industrial

Property that has either a commercial *or* an industrial use. Examples include retail stores, manufacturing facilities, factories, and apartment buildings.

D.N.R.

Aerial photograph flyer: Department of National Resources (state).

D.O.T.

Aerial photograph flyer: Department of Transportation (state).

Fairchild

Aerial photograph flyer: Fairchild (private).

FIM

Fire Insurance Map

Flood Insurance Rate Maps

Flood Insurance Rate Maps are produced by the Federal Emergency Management Agency (FEMA). These maps indicate special flood hazard areas, base flood elevations and flood insurance risk zones.

Flood Prone Area Maps

Flood Prone Area maps are produced by the United States Geological Survey (USGS). Areas identified as flood prone have been determined by available information gathered from past floods.

F.S.

Aerial photograph flyer: Forest Service (Federal).

Geonex

Aerial photograph flyer: Geonex (private).

M.C.

Aerial photograph flyer: Metropolitan Council of the Twin Cities Area (state).

Map Required Not Available in Local Collection

Property is located on a fire insurance map sheet not available in local and/or microfilm collection.

Mark Hurd

Aerial photograph flyer: Mark Hurd (private)

Multiple Locations

Indicates that there are two or more sites adjoining the target property's border.

N.A.P.P.

Aerial photograph flyer: National Aerial Photography Program (Federal).

U.S.D.A.
Aerial photograph flyer: United States Department of Agriculture (Federal).

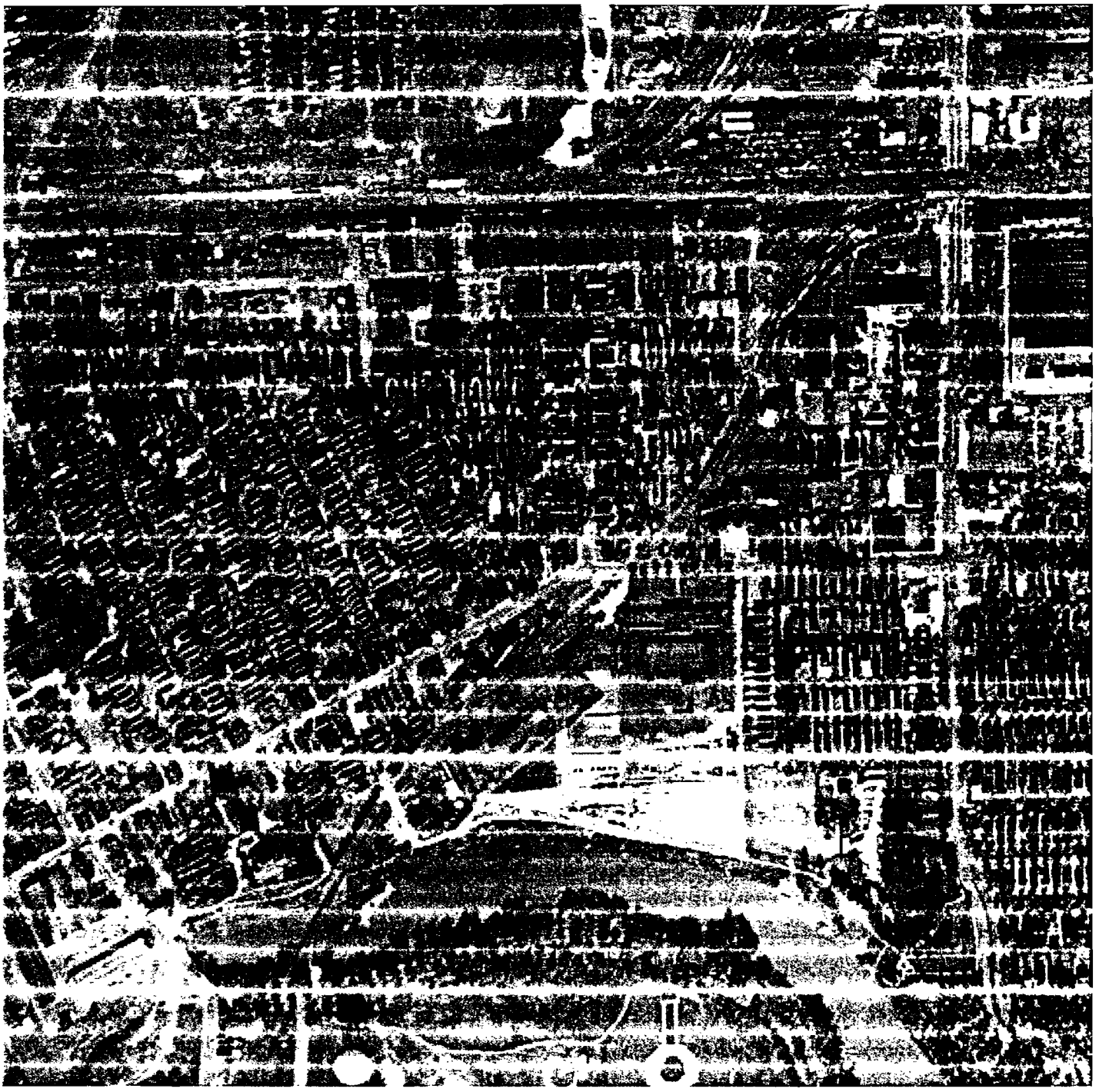
U.S.D.I.
Aerial photograph flyer: United States Department of the Interior (Federal).

U.S.G.S.
Aerial photograph flyer: United States Geological Survey (Federal).

Vacant
May refer to an unoccupied structure or land. *Used only when fire insurance map or city directory specifies 'vacant.'*

W.P.A.
Aerial photograph flyer: Works Progress Administration (Federal).

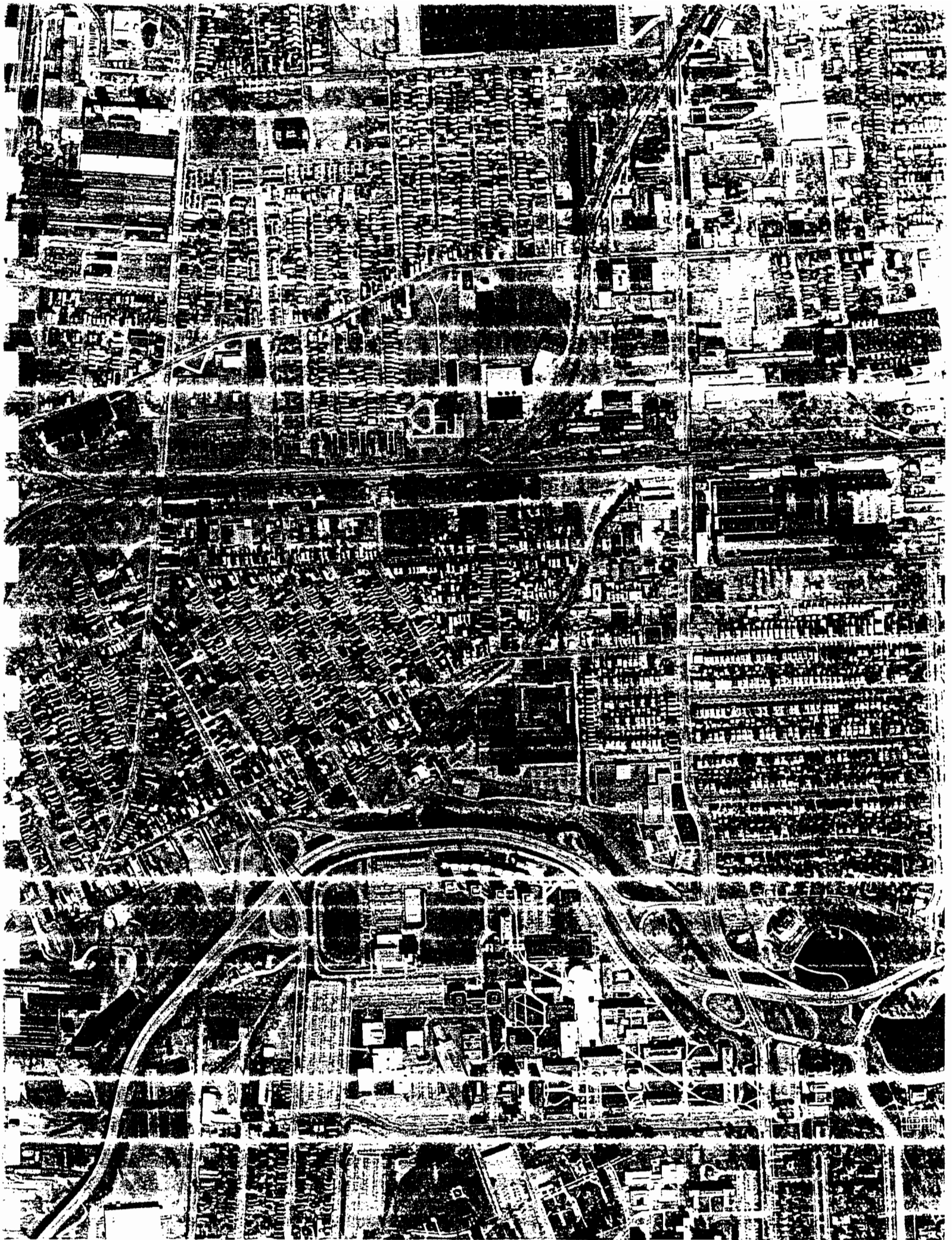
WALLACE
Aerial photograph flyer: Wallace (private).



1951

1959


1960



APPENDIX 5

MFM

LETTER OF TRANSMITTAL

DEBORAH A. NAYBOR, P.L.S., P.C.
11901 Broadway
ALDEN, NEW YORK 14004

(716) 937-9448
FAX (716) 937-9526

TO MAURICE F. MOORE
MYSDEC - REGION 9
270 MICHIGAN AVENUE
BUFFALO, NY 14203

DATE	JOB NO.
9/25/01	2001118

ATTENTION MAURICE F. MOORE

RE: MARCON ERECTORS

WE ARE SENDING YOU ☐ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications

☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
			(4) BASE MAP
			(4) GRID MAP

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval

☐ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution

☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints

☐ For review and comment ☐ _____

☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS _____

COPY TO _____

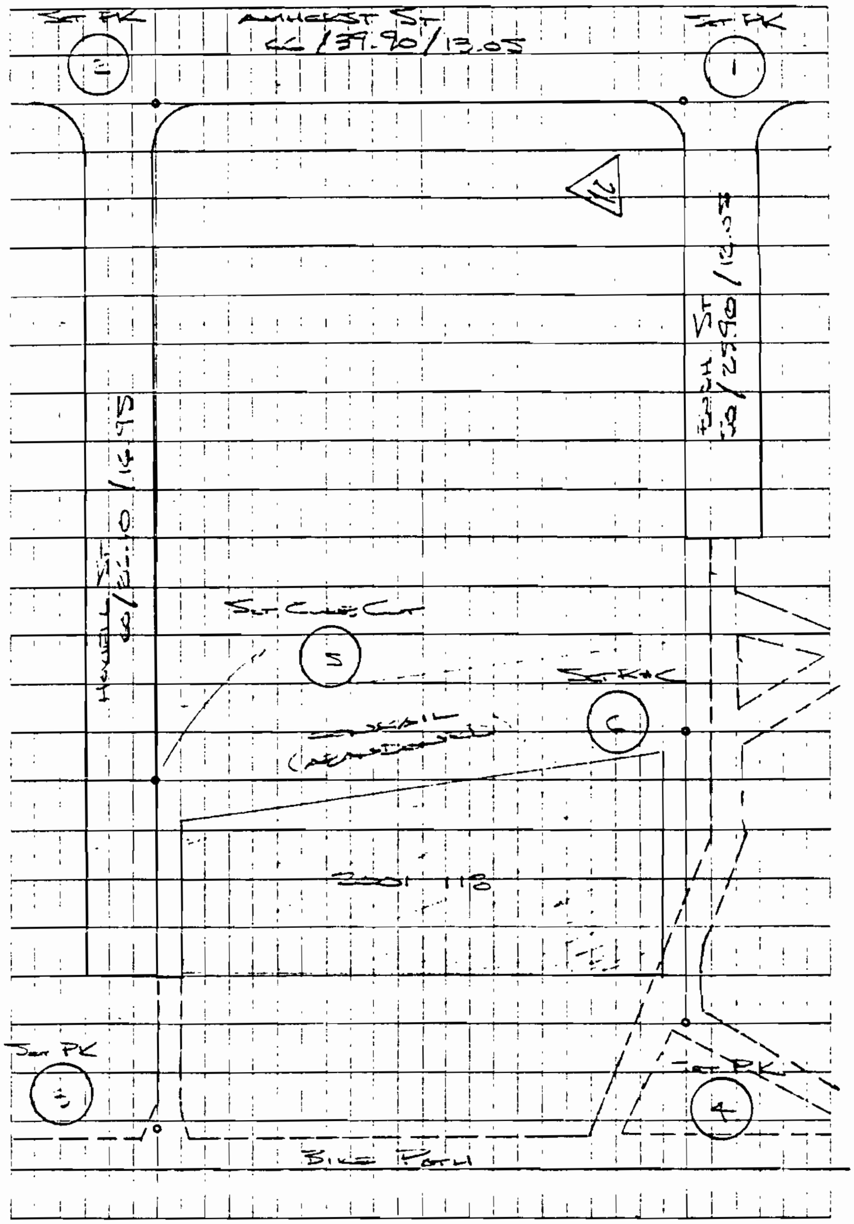
SIGNED: GAIL MONTGOMERY

If enclosures are not as noted, kindly notify us at once.

7-17-01

70° Cloudy

2001 118

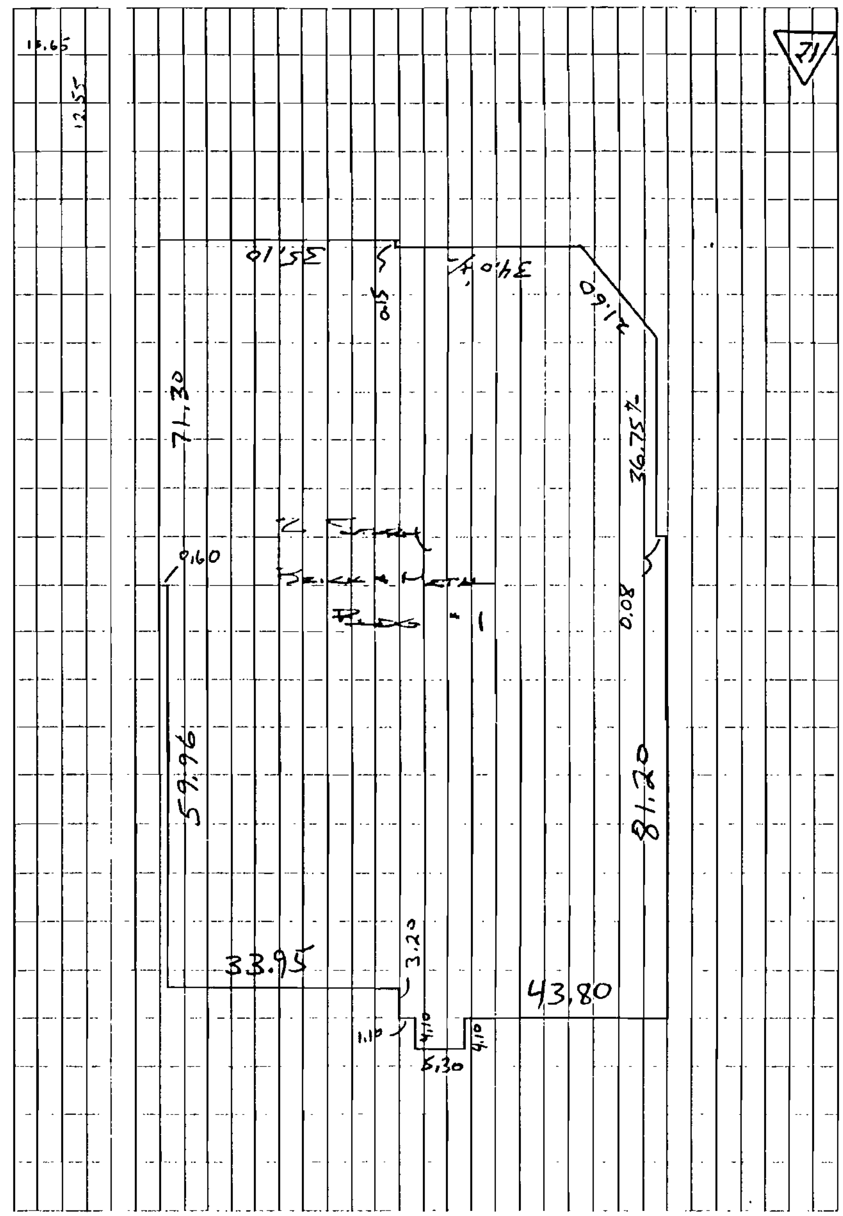


CH. UP
T-12-01

2001 113
75° Sun

(2)

	RK 2 00-00 #1		
	H.D. — 229.11		
3)	89.55.40	559.34	
	179.51.10		
ANG —	89.55.35	559.34	Set P.K
3)	89.55.35	347.94	Set Curb Cut
	RK 3 00-00 #2		
	H.D. — 559.34		
4)	94.16.10	230.11	
	188.32.20		
ANG —	94.16.20	230.11	Set P.K
	RK 4 00-00 #3		
	H.D. — 230.11		
1)	85.41.40	576.20	
	171.23.20		
ANG —	85.41.40	576.20	Set P.K
6)	85.41.40	271.11	Set R+C
	RK 1 00-00 #4		
	H.D. — 576.20		
2)	90-06-30		
	180-13-10		
ANG —	90-06-35		Set RK



21

+	HI	−	ELE	DESC
TOP BOLT HYD	SW COR AMHERST & HOWELL			
(USED T50) →			~~599.997~~	
3.02	~~603.02~~			← 596.87 (PG8)
		6.13	596.87	PK - 2
6.91	603.85			
		5.06	597.79	TOP CURB - 5
3.13	601.07			
		7.78	593.29	PK - 3
6.98	600.27			
		4.71	595.56	PK - 4
7.34	603.40			
		4.04	599.36	REBAR - 6
4.43	603.79			
		6.01	597.78	PK - 1
5.58	603.36			
		3.36	600.00	BM ABOVE 600.00
1.91	601.91			
		3.40	598.51	E. BOLT HYD NE COR. AMHERST & GERMAIN 597.581

CM. HP
7-19-01

1201 HC
TS Clonky (3)

← RUN FROM MILITARY RD. JOB

ONLY CHANGES THIS ELEV ON 2

+/- 0.03

+	HI	-	ELE	DESC
TOP	PK-3		593.29	
6.46	599.75			
		4.24	595.51	TOP PK-769
		6.06	593.69	TOP PK-888
0.28	593.97			
		14.46	579.51	TOP PK 1080
14.45	593.96			
		0.28	593.68	Kow P.
6.71	600.39			
		4.33	595.56 (4.00)	PK-4

DATA COLLECTION

FILE - 01118-01

K - 5 BS - 3 P - 500 → 606
H.I. - 5.40 Rod - 5.05

K - 599 BS - 5 P - 607 → 673
H.I. - 5.50 Rod - 5.05

7-19-01 CM HP

K - 3 BS - 4 P - 674 → 775
H.I. - 5.46 Rod - 5.05

K - 769 BS - 3 P - 776 → 817
H.I. - 5.53 Rod - 5.05

K - 5 BS - 3 P - 818 → 823
H.I. - 5.43 Rod - 5.05

K - 819 BS - 5 P - 824 → 886
HI - 5.52 Rod - 6.0

K - 4 BS - 2 P - 887 → 966
H.I. - 5.55 Rod - 5.05

7-20-01 CH-HP "10" Cloudy

FILE 01118-02

TC: 6 BS: 4 PF: 967 → 996

H.I. - 5.45 ROD - 5.05

TC: 995 BS: 4 PF: 997 → 1051

H.I. - 5.60 ROD - 5.05

TC: [illegible] BS: 6 PF: 1052 → 1078

H.I. - ROD - 5.05

TC: [illegible] BS: 4 PF: 1079 → 1094

H.I. - 5.34 ROD - 5.05

TC: 630 BS: [illegible] PF: 1095 → 1108

H.I. - ROD - 5.05

TC: 1101 BS: 1080 PF: 1109 → 1117

H.I. - 5.34 ROD - 5.05

TC: 1096 BS: 1080 PF: 1110 → 1141

H.I. - 5.43 ROD - 5.05

DATA COLLECTION

FILE - 01118-02

TC: 1124 BS: 1096 PF: 1142 → 1156

H.I. - 5.47 ROD - 5.05

TC: 1143 BS: 1124 PF: 1157

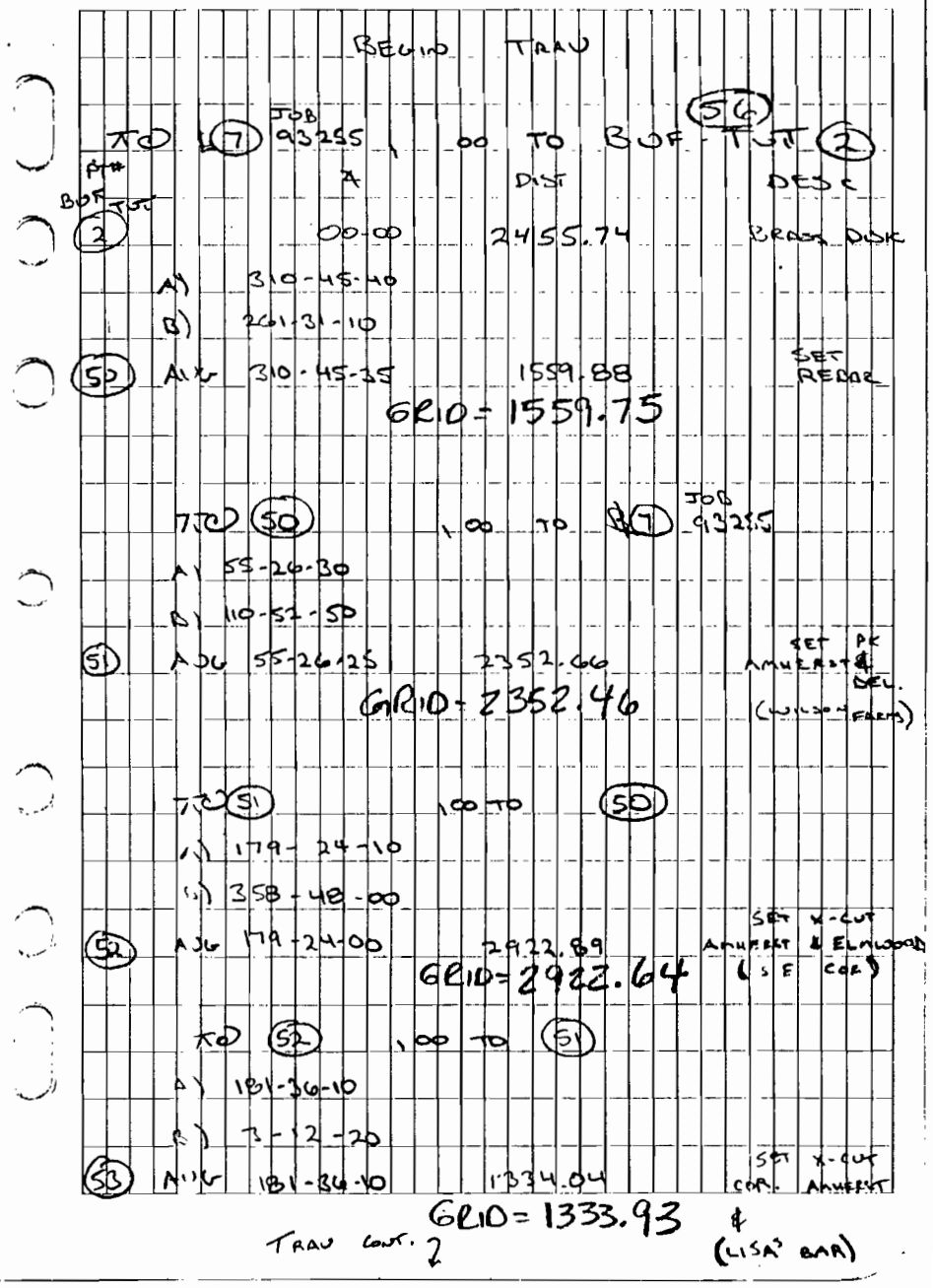
H.I. - 5.42 ROD - 5.05

CHECK TO PF: 3

AC, HP
7/24/01

2001-118
MARCON ERECTOR

6



TRAV CONT. 2

TRAV. CONT

⊼⊙ (S2) ,00 TO (S2)

A 149-52-20

B 299-44-40

(1) AVG 149-52-20 (20) 696.44 PK ⊙ COR COREY ℄ (1) BUSH & AMHERST

GRID = 696.38

⊼⊙ COREY ℄ (1) ,00 TO (S3)

A) 182-13-00

B) 4-26-00

(2) AVG 182-13-00 229.10 COREY ℄ (2)

GRID = 229.08

~~END TRAV.~~

TRAV CONTINUED ↓

AC, HP
7/25/01

#2001-118

(7)

TRAV CONTINUE

⊼⊙ (2) ,00 TO (1)

A) 269-10-50

B) 178-21-40

(S4) AVG 269-10-50 1223.05 X-CUT NW COR HOWELL & CHANDLER

GRID = 1222.95

⊼⊙ (S4) ,00 TO (2)

A) 205-11-30

B) 50-22-50

(S5) AVG 205-11-25 539.37 SET PK ON ARC ℄ PROJ HOWELL +/-

Grid = 539.32

⊼⊙ (S5) ,00 TO (S4)

A) 270-13-40

B) 180-27-20

(S7) AVG 270-13-40 2763.75 BUF TWT 1

Grid = 2763.52

⊼⊙ BUF TWT 1 ,00 TO (S5)

A) 88-53-30

B) 177-47-10

AVG 88-53-35 — ℄ KENMORE WATER TOWER

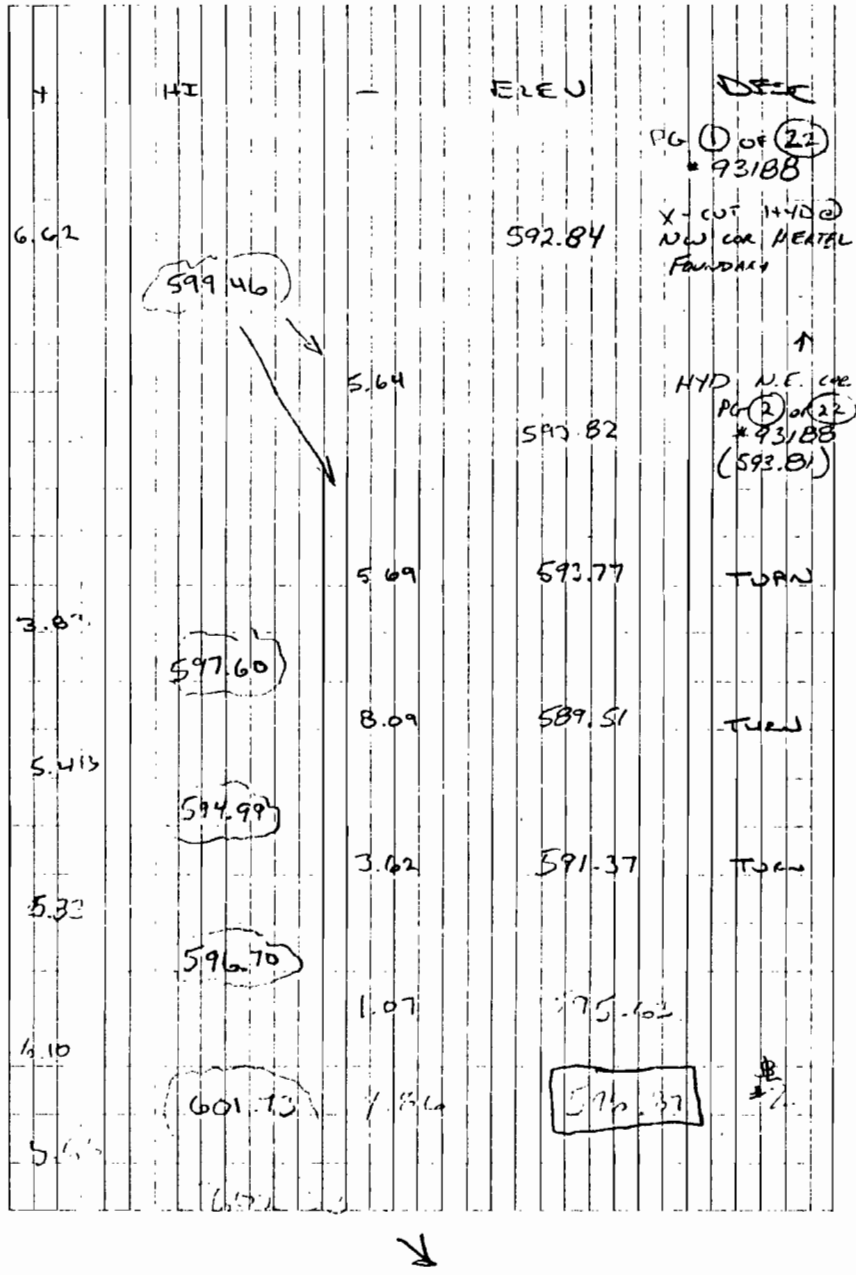
END TRAV

AC, HP
7/25/01

2001118

BEGIN LEVEL RUN

8



+					
	602.53				
		6.13	45.6		TURN
2					
	593.51				
		7.31	591.20		TURN
3.19					
	5[illegible]				
		[illegible]	[illegible]		TURN
8.17					
	5[illegible]				
		3.67	593.98		TURN
7.06					
	60[illegible]				
		[illegible]	[illegible]		P.O.B. (IND)
					(592.84)
					.02
	END RUN				

CH. HP
9-7-01

Zool 118
75° Sun

(15)

Monitoring Well
Elevations

Note all Ground Shot and Rim Shots
are North Side of Well

+	HI	-	EL	DESC
BM TO KWC - 6 [illegible]				599.[illegible]
5.33	604.91		MW-1 AT	N-1
		5.67	599.24	GRD
		5.42	599.49	KIH
		5.71	599.20	CASING
		8.18	596.73	KAW PT
3.59	600.12			
			MW-4 AT	SEE LOCATE J-12±
		6.53	593.59	GRD
		6.45	593.67	KIH
		7.07	593.05	CASING
			MW-3 AT	H-9
		5.70	594.42	GRD
		5.71	594.41	KIH
		5.95	594.17	CASING
			MW-2 AT	M-8
		4.58	595.54	GRD
		4.51	595.61	KIH
		5.34	594.78	CASING
		6.10	594.02	KAW PT

+	HI	-	EL	DESC
[illegible] FROM PREV			594.02	
4.29	598.31			
			MW-5 AT	SEE LOCATE E-11±
		5.89	592.42	GRD
		5.92	592.39	KIH
		6.80	591.51	CASING
		5.04	593.27 (0.02)	BM TOP MK 3 593.29
		[illegible] - 4 [illegible] - 3		
57	552 58 20		279.15	MW-5
58	342 36 30		112.31	MW-4

APPENDIX 6

GEOPHYSICAL SURVEY
MARCON ERECTORS
BUFFALO, NEW YORK

NYSDEC Site (915173)

HAGER-RICHTER
GEOSCIENCE, INC.

Consultants in Geology & Geophysics

HAGER-RICHTER
GEOSCIENCE, INC.

GEOPHYSICAL SURVEY
MARCON ERECTORS
BUFFALO, NEW YORK

NYSDEC Site (915173)

Prepared for:

Earth Tech of New York, Inc.
12 Metro Park Rd.
Albany, New York 12205

Prepared by:

Hager-Richter Geoscience, Inc.
8 Industrial Way - D10
Salem, New Hampshire 03079

File 01G54
September, 2001

HAGER-RICHTER
GEOSCIENCE, INC.

CONSULTANTS IN GEOLOGY & GEOPHYSICS
8 INDUSTRIAL WAY - D10
SALEM, NEW HAMPSHIRE 03079
TELEPHONE (603) 893-9944
FAX (603) 893-8313

September 4, 2001
File 01G54

Mr. Kevin McGrath
Earth Tech of New York, Inc.
12 Metro Park Rd.
Albany, New York 12205

RE: Geophysical Survey
Marcon Erectors
NYSDEC Site (915173)
Buffalo, New York

Dear Mr. McGrath:

In this letter, we report the results of a geophysical survey conducted by Hager-Richter Geoscience, Inc. at Marcon Erectors Site in Buffalo, New York for Earth Tech of New York, Inc. (Earth Tech) on August 7 and 8,2001. The scope of the project and area of interest were specified by Earth Tech. The geophysical survey is part of an environmental evaluation of the Site conducted by Earth Tech on behalf of the New York State Department of Environmental Conservation.

INTRODUCTION

The site is an active industrial facility located between Howell Street and Bush Street in Buffalo, New York. The general location of the Site is shown in Figure 1. The Site is comprised of a two-story building, gravel parking areas, and landscaped areas. Plate 2 is a Site Plan provided by Earth Tech showing the features of the Site and the specified area of interest. The Site is segmented by chain link fences and a retaining wall. Portions of the Site were inaccessible due to a rolloff dumpster, staged materials, and debris piles. Earth Tech was interested in determining whether metal-containing subsurface features such as utilities, railroad tracks, buried debris, and structures are present at the site.

OBJECTIVE

The objective of the geophysical survey was to detect possible metal-containing subsurface features such as utilities, railroad tracks, buried debris, and structures in the accessible portions of the specified area of interest, and if detected, to locate each.

Geophysical Survey
Marcon Erectors Site
NYSDEC Site (915173)
Buffalo, New York
File 01G54 August, 2001

THE SURVEY

Jeffrey Sullivan of Hager-Richter conducted the field operations on August 7 and 8, 2001. The project was coordinated with Mr. Steven Choiniere of Earth Tech. Mr. Choiniere was on site during the field operations, specified the area of interest at the Site, and assisted with the survey. Preliminary results of the geophysical survey were transmitted to Earth Tech on August 14. The CAD drawing for the Site was received from Earth Tech on August 27.

The geophysical survey was conducted using time domain electromagnetic induction metal detection. The survey was conducted using a Geonics EM61 time domain electromagnetic induction metal detector. The EM61 was designed specifically for detecting buried metal objects such as USTs, drums, and utilities. An air-cored 1-meter square transmitter coil generates a pulsed primary magnetic field in the earth, thereby inducing eddy currents in nearby metal objects. The decay of the eddy current produces a secondary magnetic field that is sensed by two receiver coils, one coincident with the transmitter and one positioned 40 cm above the main coil. By measuring the secondary magnetic field after the current in the ground has dissipated but before the current in metal objects has dissipated, the instrument responds only to the secondary magnetic field produced by metal objects. Two channels of secondary response are measured in mV and are recorded on a digital data logger. The system is generally operated by pulling the coils as a trailer with an odometer mounted on the axle to trigger the data collection. The EM61 data were acquired at approximately 8-inch intervals along lines spaced 3 feet apart across the accessible portions of the area of interest.

LIMITATIONS OF THE METHOD

The data from an EM61 survey are affected by surface metal debris, and its depth sensitivity is limited to about 15 feet. The instrument is relatively cumbersome, and works best where the 1-meter square transmit and receive coils can be hand pulled in a small trailer.

Detection and identification should be clearly differentiated. Detection is the recognition of the presence of a metal object, and the electromagnetic method is excellent for such purposes. Identification, on the other hand, is determination of the nature of the causative body (i.e., what is the body -- a cache of drums, UST, automobile, white goods, etc.?). Although the EM data cannot be used to *identify* all buried metal objects, they provide excellent guides to the identification of some objects. For example, buried metal utilities produce anomalies with lengths many times their widths.

Geophysical Survey
Marcon Erectors Site
NYSDEC Site (915173)
Buffalo, New York
File 01G54 August, 2001

RESULTS

Figure 3 is a color contour plot of the EM61 data, and Figure 4 shows the interpretation of the EM data. Some sections of the area of interest were inaccessible to the survey such as the location of a rolloff dumpster, a storage trailer, staged materials, and debris.

Interpretation of EM61 data is based on the *relative* response of the instrument in millivolts to local conditions. The instrument is not calibrated to provide an absolute measure of a particular property, such as the conductivity of the soil or the strength of the earth's magnetic field. Subsurface metal objects produce sharply defined positive anomalies when the EM is positioned directly over them. Acquiring data at short intervals along closely spaced lines, as was done at the subject site, provides high spatial resolution of the location and footprint of the targets. Thus, buried metal is recognized in contour plots of EM data by positive anomalies roughly corresponding to the dimensions of the buried metal. The colors represent relative amplitude of the response. The brighter colors (pink and red) indicate larger amounts of metal or more shallow metal; and the more subdued colors indicate lesser amounts of metal or more deeply buried metal.

Several surface metal objects are present in the area of interest such as the building, a rolloff dumpster, a trailer truck, fences, and debris. High amplitude EM61 anomalies present at such locations are attributed to the surface metal. Note that the presence or absence of subsurface metal objects in such areas cannot be determined on the basis of the EM61 data alone due to the anomaly caused by the surface metal. Such areas are shown as stippled areas on Figure 4.

A few EM61 anomalies not related to surface metal objects are present in the area of interest. Several anomalies are linear and are interpreted as possible utilities on Figure 4. Other scattered anomalies were detected in the area included in the EM61 survey. Such anomalies have been interpreted as areas of possible buried metal and are shown as crosshatched areas on Figure 4. The anomalies are relatively small (<10 feet in diameter) and do not provide enough information to identify the causative object(s). Two anomalies located north of the building appear to be related to possible subsurface piping. None of the objects appears to be related to railroad tracks.

CONCLUSIONS

Based on the geophysical survey conducted at the Marcon Erectors Site in Buffalo, New York for Earth Tech of New York, Inc. on August 7, 2001, we conclude:

Geophysical Survey
Marcon Erectors Site
NYSDEC Site (915173)
Buffalo, New York
File 01G54 August, 2001

- Several possible utilities were detected.

- Scattered small areas of possible buried metal were detected in the accessible portions of the area of interest. Two areas of possible buried metal north of the building appear to be related to possible utilities. The other areas are relatively small (<10 feet in diameter). None of the objects appears to be related to railroad tracks.

LIMITATIONS

This letter report was prepared for the exclusive use of Earth Tech of New York, Inc. (Client). No other party shall be entitled to rely on this Report or any information, documents, records, data, interpretations, advice or opinions given to Client by Hager-Richter Geoscience, Inc. (H-R) in the performance of its work. The Report relates solely to the specific project for which H-R has been retained and shall not be used or relied upon by Client or any third party for any variation or extension of this project, any other project or any other purpose without the express written permission of H-R. Any unpermitted use by Client or any third party shall be at Client's or such third party's own risk and without any liability to H-R.

H-R has used reasonable care, skill, competence and judgment in the performance of its services for this project consistent with professional standards for those providing similar services at the same time, in the same locale, and under like circumstances. Unless otherwise stated, the work performed by H-R should be understood to be exploratory and interpretational in character and any results, findings or recommendations contained in this Report or resulting from the work proposed may include decisions which are judgmental in nature and not necessarily based solely on pure science or engineering. It should be noted that our conclusions might be modified if subsurface conditions were better delineated with additional subsurface exploration including, but not limited to, test pits, soil borings with collection of soil and water samples, and laboratory testing.

Except as expressly provided in this limitations section, H-R makes no other representation or warranty of any kind whatsoever, oral or written, expressed or implied; and all implied warranties of merchantability and fitness for a particular purpose, are hereby disclaimed.

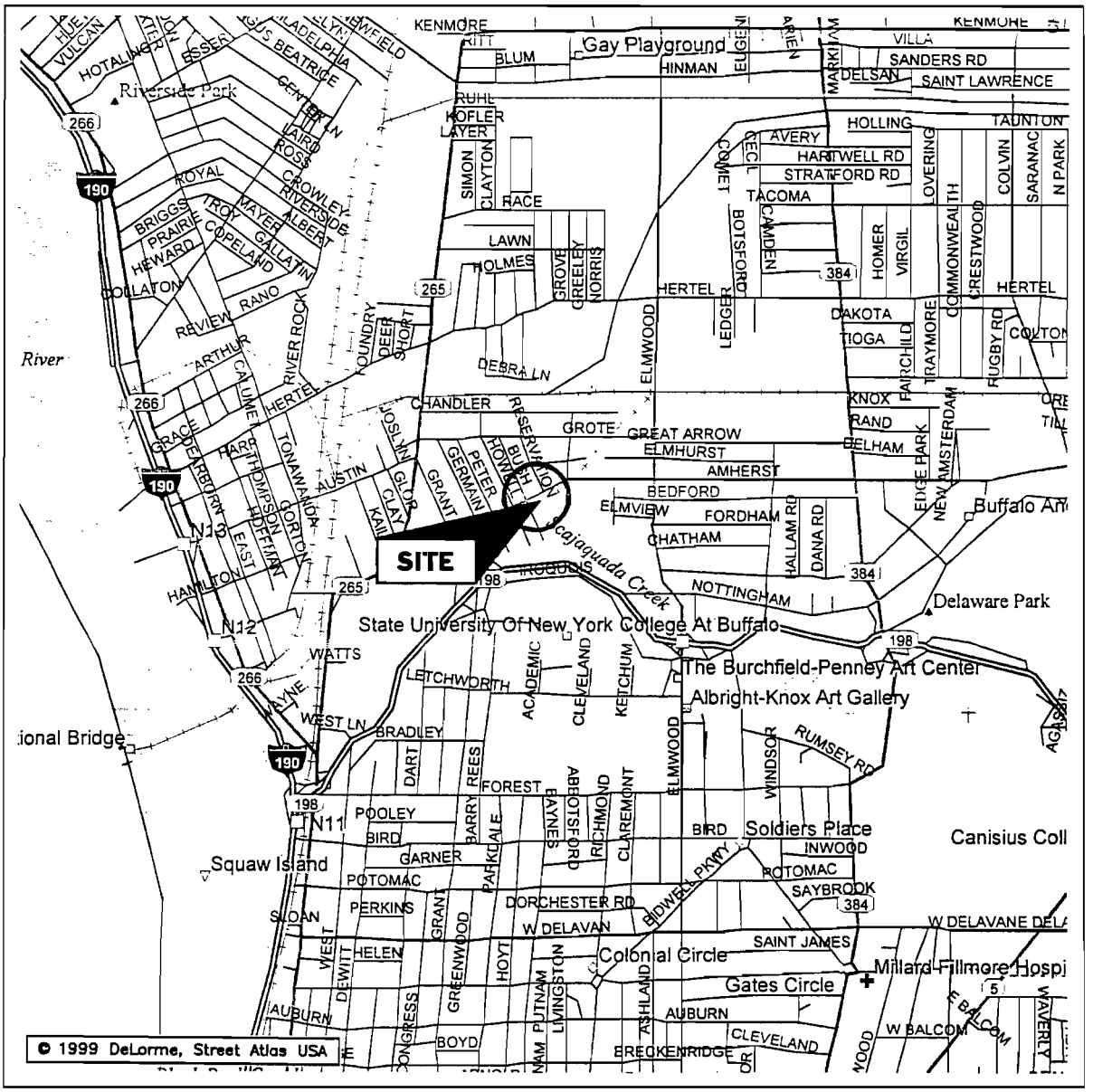
Geophysical Survey
Marcon Erectors Site
NYSDEC Site (915173)
Buffalo, New York
File 01G54 August, 2001

If you have any questions or comments on this letter report, please contact us at your convenience. It has been a pleasure to work with Earth Tech on this project. We look forward to working with you again in the future.

Sincerely yours,
HAGER-RICHTER GEOSCIENCE, INC.

Dorothy Richter
President

Attachments: Figures 1-4



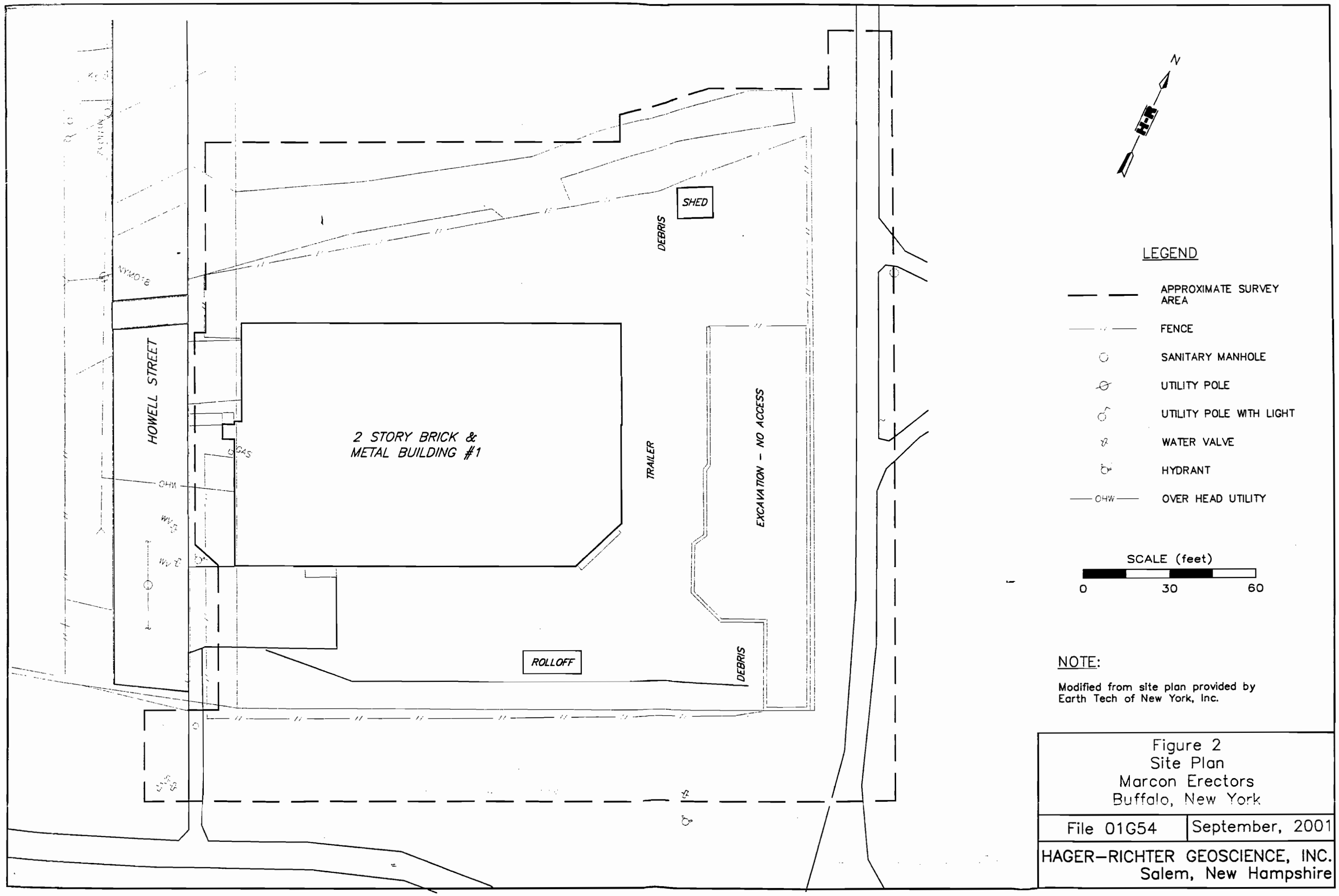
SCALE (feet)

0 2000 4000

Figure 1
General Site Location
Marcon Erectors
Buffalo, New York

File 01G54 | September, 2001

HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire



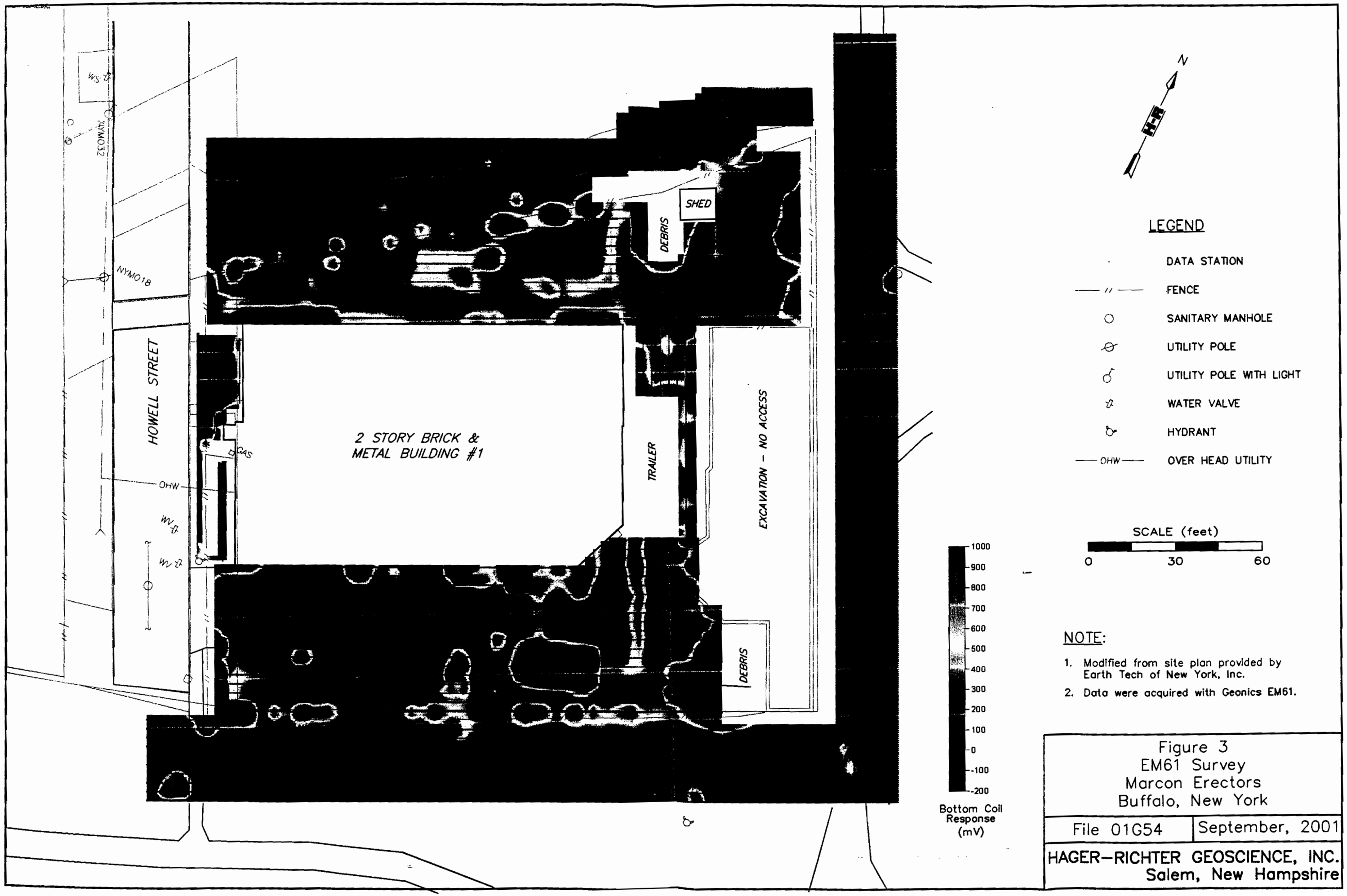
NOTE:

Modified from site plan provided by Earth Tech of New York, Inc.

Figure 2
Site Plan
Marcon Erectors
Buffalo, New York

File 01G54	September, 2001

HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire



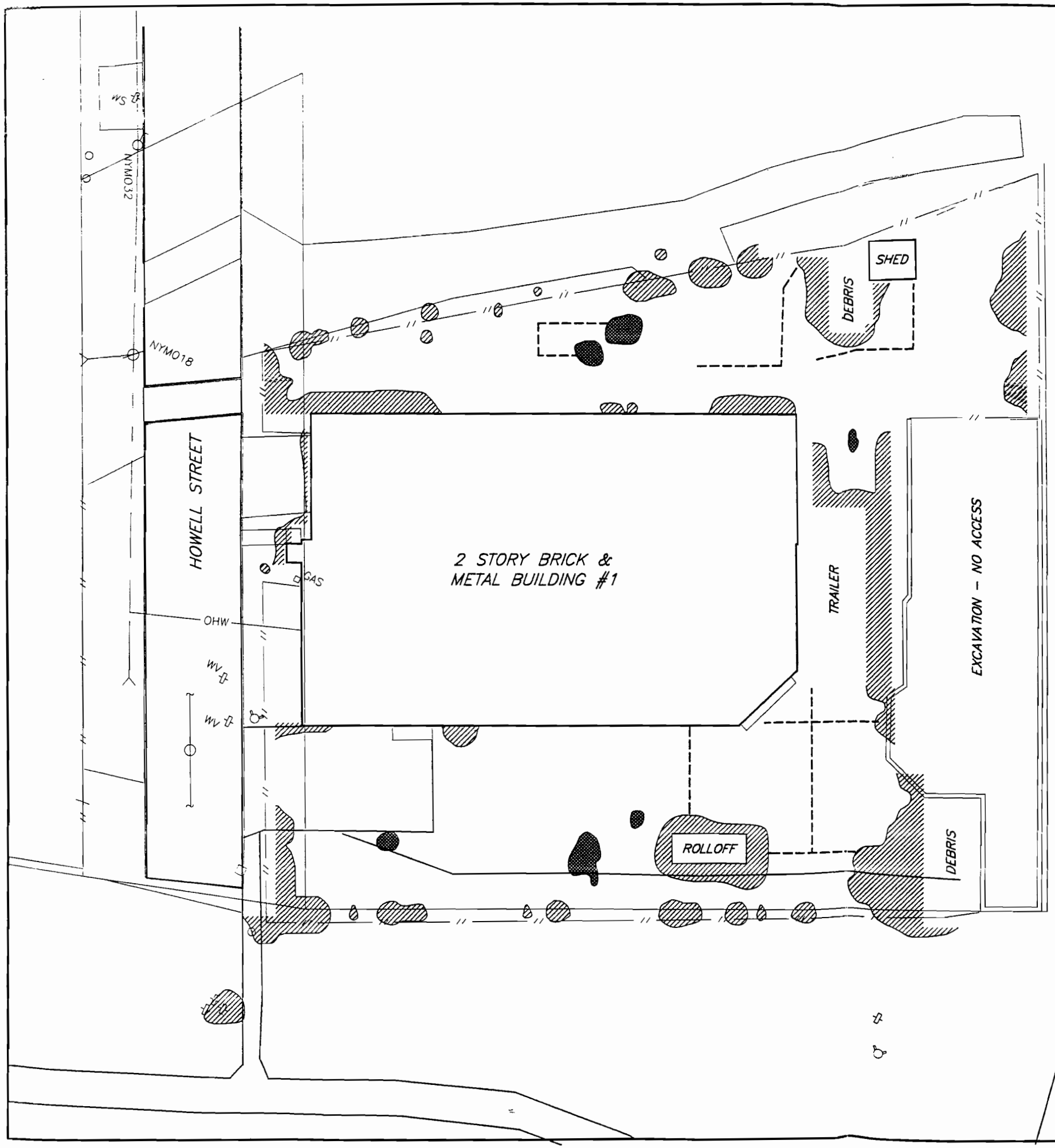
NOTE:

1. Modified from site plan provided by Earth Tech of New York, Inc.
2. Data were acquired with Geonics EM61.

Figure 3
EM61 Survey
Marcon Erectors
Buffalo, New York

File 01G54 | September, 2001

HAGER-RICHTER GEOSCIENCE, INC.
Salem, New Hampshire



LEGEND

- AREA OF POSSIBLE BURIED METAL
- EM ANOMALY ATTRIBUTED TO EFFECTS OF SURFACE OBJECTS. THE PRESENCE OR ABSENCE OF BURIED METAL WITHIN THIS AREA CANNOT BE DETERMINED ON THE BASIS OF THE EM61 DATA ALONE.
- POSSIBLE UTILITY
- FENCE
- SANITARY MANHOLE
- UTILITY POLE
- UTILITY POLE WITH LIGHT
- WATER VALVE
- HYDRANT
- OHW — OVER HEAD UTILITY

SCALE (feet)

0 30 60

NOTE:

Modified from site plan provided by Earth Tech of New York, Inc.

Figure 4
Interpretation
Marcon Erectors
Buffalo, New York

File 01G54 | September, 2001

HAGER–RICHTER GEOSCIENCE, INC.
Salem, New Hampshire