Division of Hazardous Waste Remediation
Bureau of Hazardous Site Control

905025

ADDITIONS/CHANGES TO REGISTRY: SUMMARY OF APPROVALS

SITE NAME: GOWANDA ELECTRONICS DEC I.D. NUMBER 905025

Current Classification _____

Activity: [✓] Add as Class 2 [ ] Reclassify to ___ [ ] Delist Category ___ [ ] Modify ___

Approvals:

Regional Hazardous Waste Engineer	Yes	[✓]	No	[ ]	_____
NYSDOH	Yes	[✓]	No	[ ]	_____
DEE	Yes	[✓]	No	[ ]	_____
Construction Services	Yes	[n/a]	No	[ ]	_____
BHSC: a. Investigation Section	Yes	[✓]	No	[ ]	_____
b. Site Control Section	Robert J. Marcon		Date		3/14/96
c. Director	John B. Swartwout for EHR		Date		3/15/96
DHWR Assistant Director	Charles Goldsmith		Date		3/18/96

Completion Checklist		Completed By: Initials	Date
OWNER NOTIFICATION LETTER?	[✓]	_____	3/29/96
ADJACENT PROPERTY OWNER NOTIFICATION LETTER?	[ ]	_____	_____
ENB/LEGAL NOTICE SENT? (For Deletion Only)	[ ]	_____	_____
COMMENTS SUMMARIZED/PLACE IN REPOSITORY	[ ]	_____	_____
FINAL NOTIFICATION SENT TO OWNER? (For Deletion Only)			

(For proposed Class 2a sites only) Planned investigative activities & dates: _____

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

8/23/94

SITE INVESTIGATION INFORMATION

1. SITE NAME: Gowanda Electronics	2. SITE NUMBER:	3. TOWN/CITY/VILLAGE: Persia (T)	4.COUNTY:Cattaraugus

5. REGION: 9	6. CLASSIFICATION:	CURRENT:	PROPOSED: 2	MODIFY:

7. LOCATION OF SITE (Attach U.S.G.S. Topographic Map showing site location):

a. Quadrangle: Gowanda
b. Site Latitude: 42°27'30" Site Longitude 78°56'00"
c. Tax Map Number: 16.028-1-2
d. Site Street Address: One Industrial Place , Gowanda New York 14070

8. BRIEFLY DESCRIBE THE SITE (Attach site plan showing disposal/sampling locations):

Gowanda Electronics is a small manufacturer of electrical components such as inductors. The facility is located in a mix industrial/residential area in the Village of Gowanda. The facility has been the site of various industrial operations since the early 1930's. The property has been owned by Gowanda Electronics since 1979. The contamination area is located directly east of the main manufacturing facility behind (north) of a storage shed. (See attached Figure 1-2 Industrial Place Property)

a. Area: 1 acre b. EPA ID Number _____

c. Projects Completed (x)Phase I (x)Phase II ( ) PSA ( )RI/FS ( )PA/SI (x)Other: Excavation of contaminated soil, Immediate Investigative Work Assignment (IIWA)

9. HAZARDOUS WASTE DISPOSED: Trichloroethylene (trichloroethene) - F002, 1,1,1-trichloroethane - F002

10. ANALYTICAL DATA AVAILABLE:

a. ( )Air (x)Groundwater ( )Surface Water ( )Sediment (x)Soil ( )Waste ( )Leachate ( )EPTox (x)TCLP

b. Contravention of Standards or Guidance Values

Groundwater contains the following parameters at concentrations that exceed the groundwater/drinking water std. of 5 ug/l:

Trichloroethene - 4,400 ug/l
1,1,1-trichloroethane - 2,300 ug/l
1,2-dichloroethene (total) - 5,200 ug/l
1,1-dichloroethane - 540 ug/l
1,1-dichloroethene - 49 ug/l
Vinyl chloride - 99 ug/l
1,2;4-trimethylbenzene - 8.4 ug/l

11. STATEMENT OF CONCLUSION:

Groundwater contamination exists emanating from the facility property to the adjacent residential properties. The ~~horizontal~~ vertical extent of the contamination extends to the confining glacial till layer about 16 to 17 feet deep. Groundwater is also very shallow (4 to 7 feet) and the contamination could affect local basements. The Company is proceeding with the remediation of on-site groundwater with the implementation of a pump and treat system. This system will address only a small area of contamination and may serve to prevent further off-site movement of contaminants. However, it does not address any contamination that has moved beyond the system's influence. The area is served by public water, so it is not anticipated that a potable drinking water supply would be affected. There are also no surface water bodies in close proximity to the site that would be directly effected. Based on the above, a potential significant threat condition exists. Therefore, a Class 2 classification is recommended.

12. SITE IMPACT DATA:

a. Nearest Surface Water: Cattaraugus Creek Distance: ±1050 feet	Direction: East	Classification: - C
b. Nearest Groundwater: Depth: 4 feet	Flow Direction: North-northeast	( )Sole Source (X)Primary ( )Principal ( ) Perched
c. Nearest Water Supply: Pt. Peter Rd. Reservoir Distance: ±6500 feet	Direction: Southeast	Active: (X) Yes ( ) No
d. Nearest Building: Distance: adjacent	Direction: West	Use: Manufacturing
e. In State Economic Development Zone?	( )Y (X)N	i. Controlled Site Access? ( )Y (X)N
f. Are crops or livestock on site?	( )Y (X)N	j. Exposed hazardous waste? ( )Y (X)N
g. Documented fish or wildlife mortality?	( )Y (X)N	k. HRS Score:
h. Impact on special status fish or wildlife resource?	( )Y (X)N	l. For Class 2: Priority Category:

13. SITE OWNER'S NAME:	14. ADDRESS:	15. TELEPHONE NUMBER:
Gowanda Electronics Corp.	One Industrial Place, Gowanda, New York 14070	(716) 532-2234

16. PREPARER:

Maurice Moore 2/6/96
Signature Date

Maurice F. Moore, L. C. Trt. Fac. Opr., NYSDEC - Region 9
Name, Title, Organization

17. APPROVED

Charles N. Goddard 3/15/96
Signature Date

Charles N. Goddard, Asst. Director, DHWR
Name, Title, Organization

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Office of Public Health II University Place Albany, New York 12203-3399

Barbara A. DeBuono, M.D., M.P.H.
Commissioner

Karen Schimke
Executive Deputy Commissioner

March 7, 1996

Mr. Earl Barcomb, P.E., Director
Bureau of Hazardous Site Control
NYS Dept. of Environmental Conservation
50 Wolf Road, Room 222
Albany, NY 12233

RE: **Site Investigation Information Package**
Gowanda Electronics
NYSDOH Site #905825N
(V) Gowanda, Cattaraugus County

Dear Mr. Barcomb:

My staff reviewed the Site Investigation Information package for the Gowanda Electronics site. The analytical data indicate that groundwater and soils on-site have been impacted by organic compounds. The recent investigation by the DEC also documented off-site migration of contaminants in groundwater northward from the site into adjacent residential properties. The presence of volatile organic chemicals in groundwater adjacent to private homes represents a potential threat to human health by seepage into basements or vapor infiltration. I concur with the proposed listing of this site as a Class 2 on the Registry of Inactive Hazardous Waste Disposal Sites. The signed decision form is enclosed.

If you have any questions, please call me or Mr. Mark VanValkenburg at (518) 458-6309.

Sincerely,

G. Anders Carlson, Ph.D.
Director
Bureau of Environmental Exposure
Investigation

pdk/96047PRO0072

Enclosure

cc: Dr. N. Kim
Mr. M. VanValkenburg
Mr. J. Campbell
Mr. C. O'Connor
Mr. P. Buechi - DEC
Mr. E. Wohlers - CCHD

CLASSIFICATION WORKSHEET

Site: Gowanda Electronics County: Erie Region: 9

1. Hazardous waste disposed? [X]Y (to 2) [ ]N (Stop)
   [ ]U (Stop)

2. Consequential amount of [X]Y (to 3) [ ] N (Stop)
   [ ]U (to 3)
   hazardous waste?

3. Part 375-1.4(a)(1) applies? [ ]N (to 4) [ ]U (to 4)
   [X]Y (as checked below;
   Class 2; to 5)

   [ ]a. endangered or threatened species
   [ ]b. streams, wetlands, or coastal zone
   [ ]c. bioaccumulation
   [ ]d. fish, shellfish, crustacea or wildlife
   [ ]e. fire, spill, explosion or toxic reaction
   [X]f. proximity to people or water supplies

4. Part 375-1.4(a)(2) applies? [ ]N (Class 3; Stop) [ ]U (Class 2a; Stop)
   [ ]Y (Class 2; to 5): _____

5. Factor(s) considered in making this determination:

The presence of F002 listed hazardous waste in proximity of neighboring residences. Groundwater contamination exists in adjacent residential properties that exceed the guidance values of 5 ug/l.

SUMMARY:

Consequential Hazardous Waste	[X] Yes	[ ] No	[ ] Unknown
Significant Threat	[X] Yes	[ ] No	[ ] Unknown

Proposed Classification: 2 Site Number: 9 - 05 - xxx

2/5/96
Date

Signature and Title

Appendix 3

NEW YORK STATE DEPARTMENTS OF ENVIRONMENTAL CONSERVATION AND HEALTH
INACTIVE HAZARDOUS WASTE DISPOSAL, SITE PRIORITY RANKING WORKSHEET

SITE I.D. 905 SITE NAME Gowanda Electronics

Priority I - Sites for which remediation should supersede all other Class 2 sites. Priority I can be assigned if any one of the following questions can be answered affirmatively.

a) Has a public or private water supply which is currently in use been contaminated or threatened?.... ☐

b) Has human exposure to contaminants (or the potential for exposure) been identified which represents a significant health risk as determined by DOH?.....(EXPECTED)... ☑

c) Has bioaccumulation of site contaminants in flora or fauna resulted in a health advisory?..... ☐

d) Are site contaminants present at levels that are acutely toxic to fish or wildlife or that have caused documented fish or wildlife mortality?..... ☐

☑ (1)

[If 1 or more boxes are checked, check this box]

Priority II - Important Sites. Priority II will be assigned if any of the following questions can be answered affirmatively.

a) Has a Class A or AA surface water body, primary or principal aquifer been contaminated or threatened without affecting an existing water supply?..... ☐

b) Has bioaccumulation of site contaminants in flora or fauna resulted in actionable levels (but not a health advisory)?..... ☐

c) Are contaminants at levels chronically toxic to fish/wildlife?..... ☐

d) Have endangered, threatened or rare species, significant habitats, designated coastal zone or regulated wetlands been impacted by releases from the site?..... ☐

☐ (2)

[If 1 or more boxes are checked, check this box]

Priority III - will be assigned unless one or more of the site prioritization criteria, specified above, apply to a site. After remedial needs for Priority I and II sites have been accommodated, remediation of sites under this category can be considered. If Priority III, check box 3. ☐ (3)

Enter the number of the priority box checked 1, 2, or 3 here..... ☐ (4)
This is the site's priority rank.

FACTORS

IJC Factor - If the sites has been identified by the International Joint Commission (IJC) as a component in a remedial action plan, subtract (1) from the value in box 4 and enter the result in box 5..... ☐ (5)

	Yes	No
EDZ Factor - If the site is within a New York State designated Economic Development Zone (EDZ) should this fact cause the site priority to be raised?.....	☐	☐
Community Support Factor - If the site has been targeted for local government-supported development by a developer willing to sign a consent order with DEC to finance investigation and remediation should this fact cause the site priority to be raised?.....	☐	☐

If either "yes" box is checked, subtract 1 from the value in box 4 and enter the result into box 6. If "no" is checked, the value in box 6 equals box 4 (or box 5 if applicable). If both IJC and EDZ/Community Support factors apply, only 1 (not 2) will be subtracted from the value in box 4. The resultant value in box 6 will never be less than 1..... ☐ (6)

	Yes	No
IRM NOTE: Should this site be considered a candidate for an Interim Remedial Measure (IRM) as defined by 6NYCRR Part 375-1.3n?	☑	☐

"yes" please explain why: Prompt pump & treat will prevent further offsite migration of contamination

Preparer Mr Dooley Date 2/5/96

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION
INACTIVE HAZARDOUS WASTE DISPOSAL REPORT

CLASSIFICATION CODE: 2 REGION: 9 SITE CODE:9-05-xxx
EPA ID:

NAME OF SITE: Gowanda Electronics Corp.
STREET ADDRESS: One Industrial Place
TOWN/CITY: Persia COUNTY:Cattaraugus ZIP: 14070

SITE TYPE: Open Dump-X Structure- Lagoon- Landfill- Treatment Pond-
ESTIMATED SIZE: 1 Acre

SITE OWNER/OPERATOR INFORMATION:
CURRENT OWNER NAME....: Gowanda Electronics Corp.
CURRENT OWNER ADDRESS.: One Industrial Place, Gowanda, 14070
OWNER(S) DURING USE...: Automatic Voting Machine (AVM)
OPERATOR DURING USE...: AVM
OPERATOR ADDRESS.....:
PERIOD ASSOCIATED WITH HAZARDOUS WASTE: From Unknown To 1979

SITE DESCRIPTION:

Gowanda Electronics Corp. manufactures electrical inductors. A Phase I Environmental Assessment was conducted that indicated a area on the site that had a distinct lack a vegetation and showed oil staining. As a result of this study, the company conducted a Phase II Environmental Assessment in the Fall 1993. This study detected a area of soil adjacent to a storage shed on the east side of the Main Plant building that contained concentrations of chromium, copper, lead, nickel, tin, zinc and total petroleum hydrocarbons in excess of established clean-up goals. Trace levels of 1,1,1-trichloroethane, trichloroethene, and cis-dichloroethene were also detected in the soil. In January 1994 a area of contaminated soil was excavated to a depth of between 5 and 7 feet below grade and disposed of off-site. It was noted during the excavation that the concentration of volatile contaminants in samples of soil, increased with depth. Based on the results of the soil excavation activities a groundwater monitoring well was installed and subsequently sampled in May 1994. The results of the analysis showed that groundwater contained primarily trichloroethene and 1,1,1-trichloroethane and several degradation (breakdown) products above groundwater standards. A 1995 Immediate Investigative Work Assignment confirmed that groundwater contamination emanates from the facility property northward onto adjacent residential properties. The ~~horizontal~~ extent of the contamination is to a depth of 16 to 17 feet to a confining glacial till layer.

vertical

HAZARDOUS WASTE DISPOSED: TYPE	Confirmed- X	Suspected- QUANTITY (units)
Trichloroethene - F002		Unknown
1,1,1-Trichloroethane - F002		Unknown

SITE CODE:

ANALYTICAL DATA AVAILABLE:
Air- Surface Water- Groundwater- X Soil- X Sediment-

CONTRAVENTION OF STANDARDS:
Groundwater- X Drinking Water- X Surface Water- Air-

LEGAL ACTION:

TYPE..: Consent Order State- Federal-
STATUS: Negotiations in Progress- Order Signed-

REMEDIAL ACTION:

Proposed- Under design- X In progress- Completed- X
NATURE OF ACTION: Contaminated soil has been removed, A groundwater extraction (pump & treat) system is proposed and under design to address site groundwater.

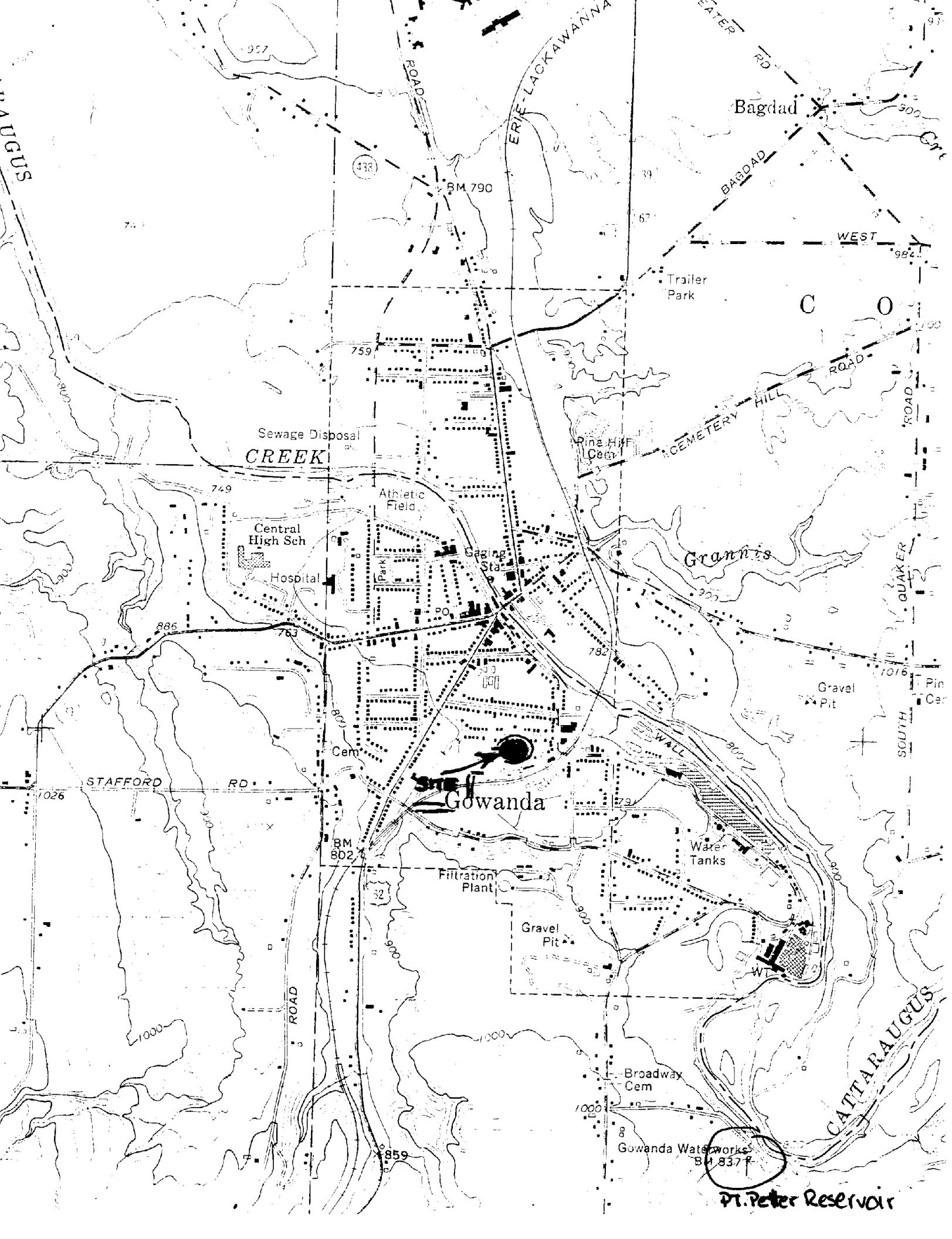
GEOTECHNICAL INFORMATION:
SOIL TYPE: Dark Gray gravel with little fine sand and silt to minimum 12 feet in depth

GROUNDWATER DEPTH: approximately 4 feet BGS

ASSESSMENT OF ENVIRONMENTAL PROBLEMS:

Groundwater contamination from past site activities has occurred. The vertical extent of the groundwater is about 16 to 17 feet deep. The horizontal extent of the contamination extends northward for greater than 150 feet. Direction of groundwater flow assumed to be to the north-north west towards a residential area. Unsaturated soil contamination has been removed and disposed of off-site. There are no surface water bodies within 1000 feet of the site. No continuing source exists.

ASSESSMENT OF HEALTH PROBLEMS:


Bagdad
BAGDAD
WEST
ROAD
ERIE-LACKAWANNA
BM 790
Trailer Park
CEMETERY HILL
ROAD
Sewage Disposal
CREEK
Pine Hill Cem
Athletic Field
Central High Sch
Hospital
Park
Gaging Sta
PO
Grannis
QUAKER
SOUTH
Gravel Pit
WALL
Cem
STAFFORD
RD
Gowanda
BM 802.1
Water Tanks
Filtration Plant
Gravel Pit
ROAD
Broadway Cem
CATTARAUGUS
Gowanda Waterworks
BM 837.7
Pt. Peter Reservoir

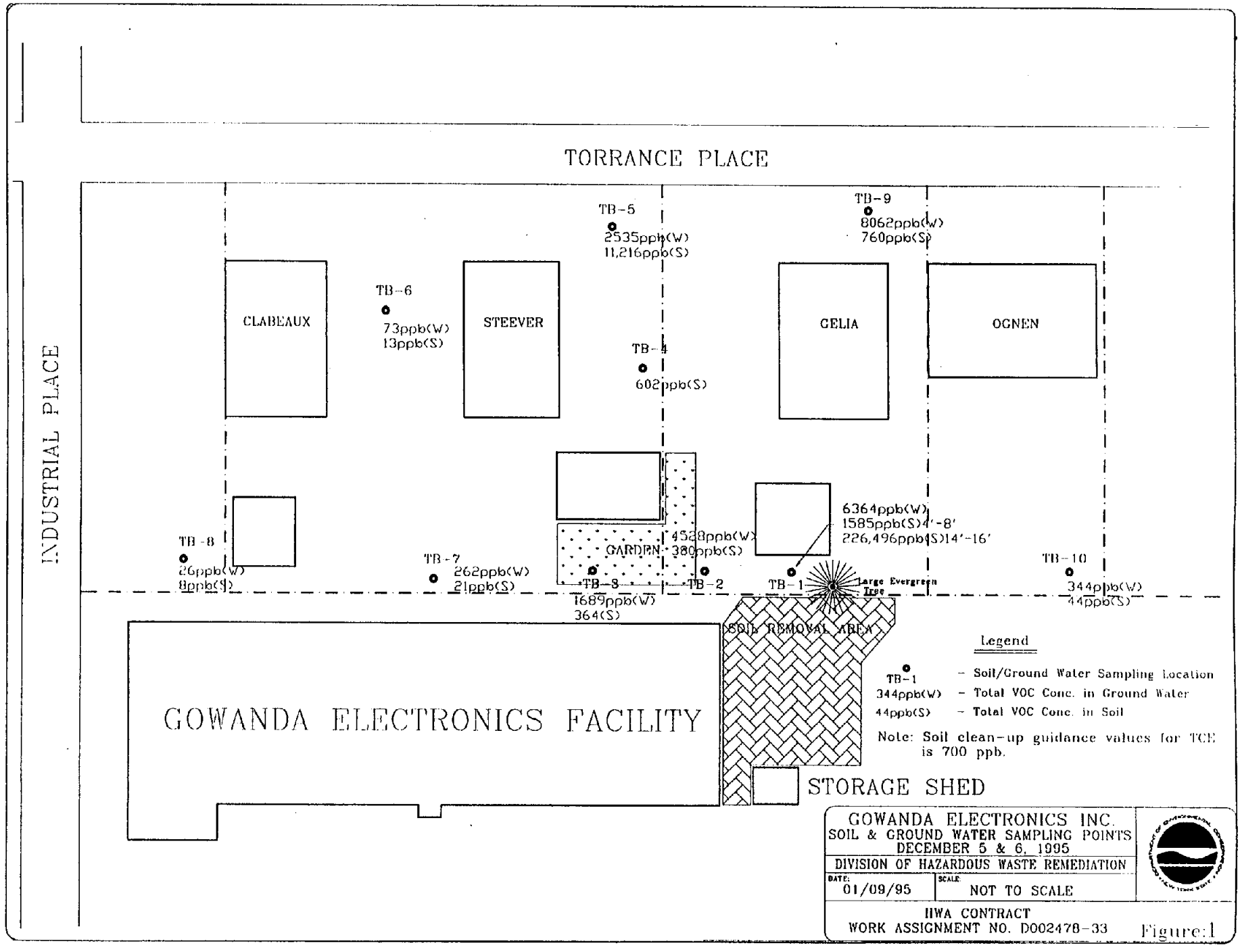

TORRANCE PLACE
INDUSTRIAL PLACE
CLABEAUX
STEEVER
GELIA
OGNEN
TB-5
2535ppb(W)
11,216ppb(S)
TB-9
8062ppb(W)
760ppb(S)
TB-6
73ppb(W)
13ppb(S)
TB-4
602ppb(S)
TB-8
26ppb(W)
8ppb(S)
TB-7
262ppb(W)
21ppb(S)
GARDEN
4528ppb(W)
380ppb(S)
6364ppb(W)
1585ppb(S)4'-8'
226,496ppb(S)14'-16'
TB-3
1689ppb(W)
364(S)
TB-2
TB-1
Large Evergreen Tree
TB-10
344ppb(W)
44ppb(S)
SOIL REMOVAL AREA
GOWANDA ELECTRONICS FACILITY
STORAGE SHED
Legend
TB-1 - Soil/Ground Water Sampling Location
344ppb(W) - Total VOC Conc. in Ground Water
44ppb(S) - Total VOC Conc. in Soil
Note: Soil clean-up guidance values for TCE is 700 ppb.
GOWANDA ELECTRONICS INC.
SOIL & GROUND WATER SAMPLING POINTS
DECEMBER 5 & 6, 1995
DIVISION OF HAZARDOUS WASTE REMEDIATION
DATE: 01/09/95
SCALE: NOT TO SCALE
HWA CONTRACT
WORK ASSIGNMENT NO. D002478-33

Figure:1

MALCOLM PIRNIE

REPORT OF FIELD ACTIVITIES AT ONE INDUSTRIAL PLACE

GOWANDA ELECTRONICS CORPORATION
GOWANDA, NEW YORK

APRIL 1994

MALCOLM PIRNIE, INC.

S-3515 Abbott Road
P. O. Box 1938
Buffalo, New York 14219

MALCOLM PIRNIE

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Malcolm Pirnie, Inc. has prepared this report to describe the investigations and field activities performed at the Gowanda Electronics Corporation, One Industrial Place property.

1.2 SITE HISTORY

The One Industrial Place property, currently owned by Gowanda Electronics Corporation occupies approximately 3.8 acres of land in a mixed industrial/residential area in Gowanda, Cattaraugus County, New York, as shown on Figure 1-1. The property is bounded on the north and east by residential property, on the south by a machine shop, and on the west by the road (Industrial Place), as shown on Figure 1-2.

Property records indicate that the One Industrial Place property has been used as a commercial/industrial location since the early 1930's. It appears that the property was first used commercially by Continental Drugs, Incorporated, who owned the property from 1931 until 1933.

According to various sources, the property was then used as a machine/stamping shop during World War II. The One Industrial Place property was purchased by Rae B. Knowles in 1945, and was subsequently owned by Coyle E. Knowles. The use of the One Industrial Place as a machine/stamping shop was continued by Knowles-Fisher Corp, who owned the property from 1967 until 1971, and then by Automatic Voting Machine (AVM) who owned the property from 1971 until 1979. Gowanda Electronics Corporation purchased the One Industrial Place property in 1979 from AVM and has used it exclusively for the manufacture of inductors for the electronics industry.

In July and November 1989, the New York State Department of Environmental Conservation (NYSDEC) received telephone calls from an anonymous employee complaining of a gasoline/solvent odor inside the One Industrial Place main building. The site was subsequently assigned to the NYSDEC's Spills Group under Spill Number 8908185. A review of the NYSDEC's available files in this regard indicates that the source of the spill and odor were never specifically identified. To address the odor, a ventilation system

consisting of vent pipes was installed at the northwestern foundation wall at the main building and the file was closed. No additional environmental investigations were conducted on the One Industrial Place property between November 1989 and November 1993.

1.3 INVESTIGATORY BACKGROUND

1.3.1 Phase I Environmental Site Assessment

As related to a prospective change in banking relations by the Company, a Phase I Environmental Site Assessment of the One Industrial Place property was initiated. Malcolm Pirnie was retained to assess the current environmental conditions of the property based on visual observations; and, to the extent practicable, assess the potential presence of hazardous substances and/or hazardous wastes and their environmental impact based on available documentation and field observations.

During the Phase I investigation, Malcolm Pirnie identified the following potential environmental concerns associated with the Industrial Place property, as summarized below:

- The lack of vegetation behind the storage shed at the Industrial Place facility may be an indication of past releases.
- The soil in front of the storage shed showed "old" oil staining.

Based on these observations, Malcolm Pirnie recommended that a Phase II Environmental Site Assessment, consisting of soil sampling in the areas of potential environmental concern be performed.

1.3.2 Phase II Environmental Site Assessment

Soil sampling locations (identified on Figure 1-3) were determined based on known historical uses of the site and visual observation of site conditions (viz., lack of vegetation or oil staining).

The parameters selected for analysis were based on the following information:

- Oils and solvents are often used at machine shops and were probably used on-site by previous site owners/users.
- Hydraulic oils used in some machinery, particularly the 1950s-1970s may have contained polychlorinated biphenyls (PCBs).

MALCOLM PIRNIE

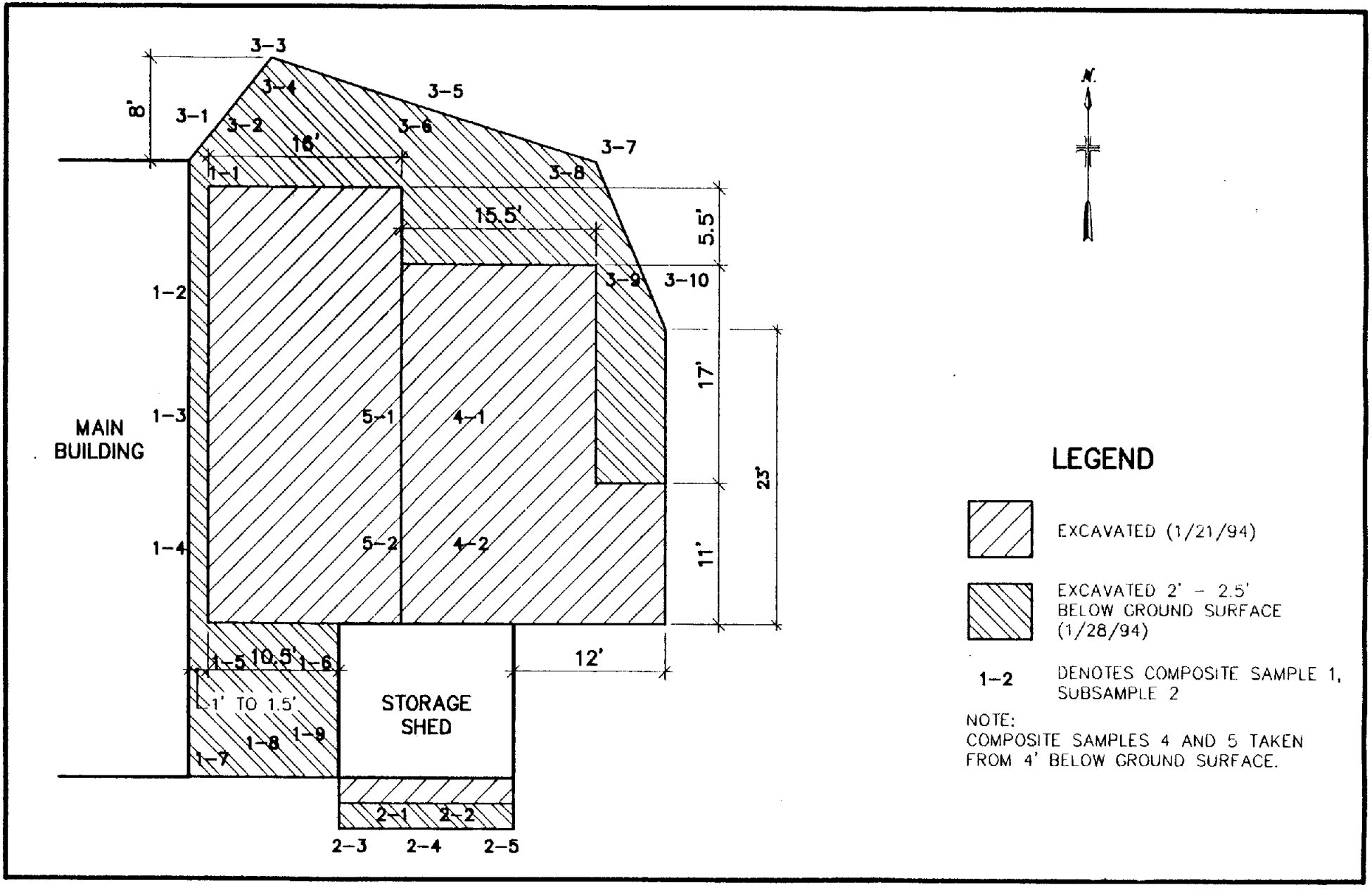
TABLE 1

GOWANDA ELECTRONICS CORPORATION
ONE INDUSTRIAL PLACE INVESTIGATION

MAY 1994 GROUNDWATER SAMPLING RESULTS

Parameter	Concentration in MW-1
Field Parameters:	
pH (units)	6.95
Temperature (°C)	10
Specific Conductivity (umhos/cm)	768
Eh (mv)	+10
Turbidity (ntu)	30
Appearance/Odor	clear/none
Target Compound List:	
Volatile Organic Compounds (ug/l)	
Vinyl Chloride	25
1,1-Dichloroethene	42
Trans 1,2-Dichloroethene	41
cis 1,2-Dichloroethene	3,900
Trichloroethene	2,900
1,1-Dichloroethane	240
1,1,1-Trichloroethane	2,300
1,2,4 Trimethylbenzene	8.4
Target Compound List:	
Semi-Volatile Organic Compounds (ug/l)	None Detected

Notes:
(1) Samples collected on May 5, 1994.
(2) Only compounds detected above the analytical detection limit are shown here.
Remainder of the analytical results are presented in Appendix A.

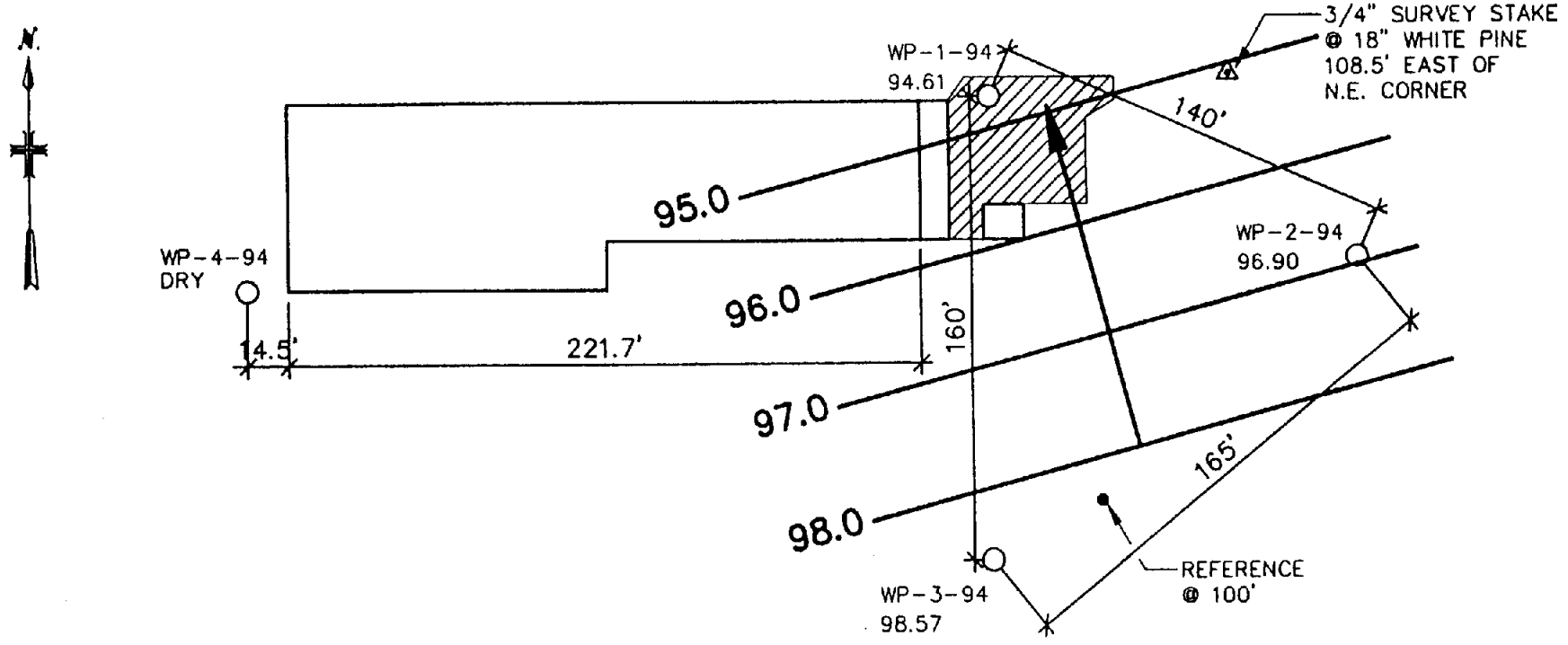


MALCOLM PIRNIE

GOW-00-F22

ONE INDUSTRIAL PLACE
REPORT ON FIELD ACTIVITIES
JANUARY 28, 1994 LIMITS OF EXCAVATION
GOWANDA ELECTRONICS CORP. APRIL 1994

FIGURE 2-2



WELL POINT	TOP OF GRADE (FT)	TOP OF RISER (FT)	GW ELEV. 4/26/94	GW ELEV. 5/2/94
WP-1	98.75	99.06	94.61.	94.71
WP-2	98.45	98.57	96.90	96.87
WP-3	100.34	101.28	98.57	98.98
WP-4	100.80	100.89	N.W. *	N.W. *

* NO WATER. BOTTOM DEPTH OF WELL IS AT 93.02'.

LEGEND

- LIMITS OF EXCAVATION
- WELL POINT
- REFERENCE ELEVATION SET AT 100 FT.
- 98.0 — GROUNDWATER ISOPOTENTIAL CONTOUR
- GROUNDWATER FLOW DIRECTION

SCALE: 1" = 60'

MALCOLM PIRNIE

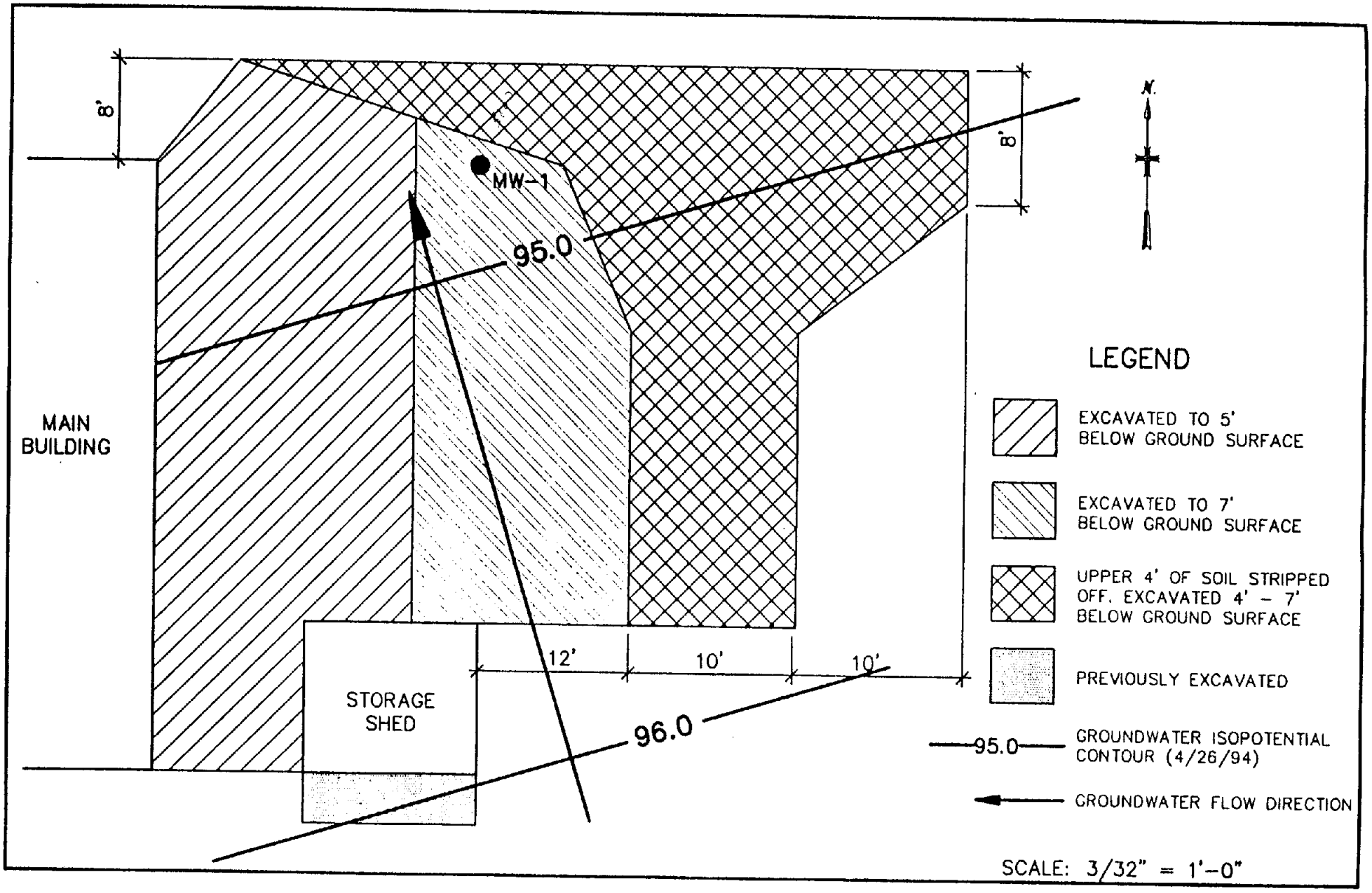
GOW-00-WPL

ONE INDUSTRIAL PLACE

WELL POINT LOCATIONS AND ISOPOTENTIAL CONTOURS

GOWANDA ELECTRONICS CORP. MAY 1994

FIGURE 1



MALCOLM PIRNIE

GOW-00-F24

ONE INDUSTRIAL PLACE
REPORT ON FIELD ACTIVITIES
FEBRUARY 14, 1994 LIMITS OF EXCAVATION AND MONITORING WELL LOCATION

GOWANDA ELECTRONICS CORP. MAY 1994

FIGURE 2

MALCOLM PIRNIE

TABLE 2-3

FIELD ACTIVITIES AT ONE INDUSTRIAL PLACE
GOWANDA, NEW YORK

SUMMARY OF ANALYTICAL RESULTS
MARCH 3, 1994 SAMPLING EVENT

Parameter	Composite 1 (1)	Composite 1 Field Duplicate (2)	Composite 2 (2)	Composite 3 (3)
Total Petroleum Hydrocarbons (mg/kg):	5,860	–	–	–
Volatile Organics:				
1,1-Dichloroethene	0.004 J	0.010 J	0.012 J	0.012 U
1,1-Dichloroethane	0.015	0.034	0.012 U	0.012 U
1,1,2-Trichloroethane	0.001 J	0.002 J	0.012 U	0.012 U
Tetrachloroethane	0.016 J	0.010 J	0.001 J	0.002 U
Chlorobenzene	0.007 J	0.003 J	0.005 J	0.002 U
Ethyl Benzene	0.0008	0.002 J	0.012 U	0.010 J
1,1,1 Trichloroethane	2.5 D	4.1 D	0.150	0.010 J
Trichloroethene	11.0 D	17.0 D	0.360 D	0.091
Carbon Disulfide	0.012 U	0.002 J	0.012 U	0.012 U
Benzene	0.012 U	0.002 J	0.006 J	0.012 U
Toluene	0.012 U	0.002 J	0.012 U	0.012 U
TCLP Volatiles (mg/L):				
Trichloroethene	0.42	0.28	0.055	0.036
TCLP Metals (mg/L):				
Barium, Total	1.7	–	–	–

Notes:

(1) Composite sample of oily soil in roll off bins.
(2) Composite sample of non-oily soil pile. West side.
(3) Composite sample of non-oily soil pile. East side.
– = Not analyzed.
U = Indicates compound was analyzed for but not detected.
J = Indicates an estimated value. Compound identified at concentrations less than the quantitation limit but greater than zero.
D = Identifies compounds identified in an analysis at a secondary dilution factor.

MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
ENVIRONMENTAL ENGINEERS, SCIENTISTS & PLANNERS

May 25, 1994

Mr. David Schaack
Gowanda Electronics Corporation
One Industrial Place
Gowanda, New York 14070

Re: Groundwater Investigation
One Industrial Place Property
Gowanda, New York

Gentlemen:

Recent investigations at One Industrial Place encountered the presence of petroleum hydrocarbons and volatile organic compounds (VOCs) in subsurface soils. The results of these investigations are described in the Report of Field Activities at One Industrial Place, dated April 1994. As agreed, Malcolm Pirnie has completed a groundwater investigation to determine the presence or absence of VOCs and selected semi-volatile organics in the uppermost groundwater zone. This letter describes the scope and findings of the investigation.

Scope of Field Activities

Four well points were installed on April 25, 1994 at the locations shown on Figure 1 to define the direction of shallow groundwater flow in the vicinity of the recently excavated soils. Well points were driven to a depth of four to six feet below grade. The upper one foot of the well point riser was sealed with bentonite to limit infiltration of rainwater. Following wellpoint installation, Malcolm Pirnie surveyed wellpoint locations, ground surface elevations, and top of riser elevations (with reference to an arbitrary vertical datum).

A groundwater monitoring well was installed on May 2, 1994 in the area of excavation (see Figure 2) to collect a groundwater sample. The well was developed two days after installation. Well construction and development details are provided in Appendix A.

One groundwater sample was collected on May 5, 1994 and analyzed for volatile organic compounds using USEPA Method 8260 and base/neutral extractable semi-volatile compounds using USEPA Method 8270. Analyses were performed by General Testing Corporation. A well sampling field data form, and the General Testing analytical report are presented in Appendix A.

Investigation Findings

Groundwater levels measured in the well points on April 26 and May 2, 1994 are tabulated on Figure 1. Wellpoint WP-4 was observed dry on both occasions. Based on data from the three other wellpoints, the direction of shallow groundwater flow is to the north-northwest (see Figure 1). However, on a site-wide basis the watertable is somewhat more complex than illustrated on Figure 1. The watertable at WP-4 is at least at an elevation of 93.04 feet, which is the bottom elevation of WP-4. Therefore, groundwater flows in a more westerly

S. 3515 ABBOTT ROAD P.O. BOX 1938 BUFFALO, NY 14219-0138 716-828-1300 FAX 716-828-0431

direction near the western site boundary. The groundwater contours shown are believed to be accurate in the immediate vicinity of the soil excavation.

The borehole log in Appendix A presents geologic conditions at the drilling site consisting of approximately four feet of bank run sand and gravel, which was used to backfill the soil excavation; one to two feet of brown sandy silt, which may be on-site soil used to backfill a portion of the soil excavation; and six to seven feet of native sand and gravel, with lesser proportions of silt. A slight petroleum sheen was observed on the drill cuttings and in development water, but no odors or oily materials were observed. The monitoring well is screened in the native sand and gravel at a depth of 7 to 12 feet below grade. Groundwater was measured approximately four feet above the screen. The monitoring well was placed inside the area of soil excavation and backfill, but near the downgradient boundary. The monitoring well location is shown on Figure 2.

The summary of analytical results presented in Table 1 shows that volatile organic compounds were detected in the shallow groundwater at MW-1. Trichloroethene (TCE), cis-1,2-dichloroethene (cis-DCE), and 1,1,1 trichloroethane (TCA) comprise the majority of the total volatile organics detected in groundwater. Four other chlorinated compounds, as well as a trace concentration of 1,2,4 trimethylbenzene, were also detected. No semi-volatile organic compounds were detected above the analytical detection limit.

Thank you for the opportunity to perform this work. If there are any questions please call this office.

Very truly yours,

MALCOLM PIRNIE, INC.

Anne Marie C. McManus, P.E.
Associate

c: Paul Werthman - Malcolm Pirnie
Rob O'Laskey - Malcolm Pirnie

2455-001-100

ACM05254.L5

BOREHOLE LOG MW-1

PROJECT: ONE INDUSTRIAL PLACE INVESTIGATION
PROJECT NO.: 2455-001-100
LOCATION: GOWANDA, NEW YORK
SURVEY COORDINATES:
SURVEY DATUM:

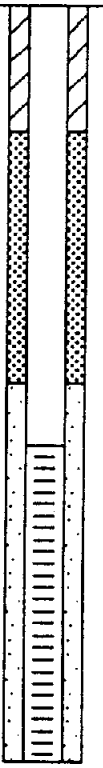
CLIENT: GOWANDA ELECTRONICS CORP.
DRILLING DATES: 5/2/1994
DRILLING METHOD: 8.25-inch ID HSA
LOGGED/CHECKED BY: RLD/RHO
SURFACE ELEVATION: 98.81ft.SITE DATUM

SYMBOLS AND DEFINITIONS

SS Split Spoon (2in.ID)
S&3 Split Spoon (3in.ID)
ST Shelby Tube (2.8in.ID)
WR Weight of Rods
NR No Recovery
- Sampler Refusal

x----x Penetration Resistance ('N' Blows/1.0 ft)

DEPTH (ft.BGS)	ELEVATION	SOIL/ROCK DESCRIPTION	SOIL DATA: GRAPHIC LOG	SOIL DATA: SAMPLE NO. / RUN NO.	SOIL DATA: BLOWS / 6"	SOIL DATA: RECOVERY (in)	SOIL DATA: 'N'-VALUE	ROCK DATA: FROM/TO	ROCK DATA: DRILL RATE MIN./FT.	ROCK DATA: % REC.	ROCK DATA: % RQD.	WELL DIAGRAM	COMMENTS (USCS)
1	97.8	FILL Brown medium to coarse SAND and subrounded fine GRAVEL. Bank Run Sand and Gravel. Moist		1 SS	1 2 3 3	1.0	5						
2	96.8	Same as above.											
3	95.8			2 SS	3 2 2 2	1.3	4						
4	94.8												
5	93.8	-Brown with red and yellow mottling, SILT, some fine sand, little coarse sand, trace clay. Moist		3 SS	2 3 3 2	0.8	6						
6	92.8												
7	91.8	-Gray, fine to medium GRAVEL, some fine to medium sand, trace silt. Gravel to 2-inches diameter, subrounded to angular. Saturated		4 SS	2 3 4 27	1.1	7						
8	90.8	-Same as above, Saturated											
9	89.8			5 SS	23 22 25 14	1.0	47						Slight sheen noted
10	88.8	Dark Gray, GRAVEL, little fine sand and silt. Saturated											
11	87.8			6 SS	15 16 12 25	1.8	27						
12	86.8												
13	85.8	WELL CONSTRUCTION DETAILS 2" Diameter PVC Riser: Surface to 7ft. 2" Diameter PVC 10-Slot Screen: 7 to 12ft Concrete and Flush Mount Casing: Surface to 2ft. Bentonite Pellets: 2 to 6ft. No. 2 Q-Roc Sand: 6 to 12ft.											
14	84.8												
15	83.8												
16	82.8												
17	81.8												
18	80.8												
19	79.8												
20	78.8												



MALCOLM PIRNIE, INC.

MALCOLM PIRNIE

TABLE 1

GOWANDA ELECTRONICS CORPORATION
GROUNDWATER REMEDIAL APPROACH INVESTIGATION

CONTAMINANT CONCENTRATIONS

Parameter	Sampling Event		
	April 1994 (MW-1)	January 1995 (B-1)	Maximum[1]
Volatile Organic Compounds (ug/l):			
Vinyl Chloride	25	7.2	25
1,1-Dichloroethene	42	9.3	42
trans-1,2-Dichloroethene	41	8.2	41
cis-1,2-Dichloroethene	3,900	1,900	3,900
Trichloroethene	2,900	4,400	4,400
1,1-Dichloroethane	240	25	240
1,1,1-Trichloroethane	2,300	45	2,300
1,2,4-Trimethylbenzene	8.4	NA[3]	8.4
Carbon Tetrachloride	BDL[2]	5.3	5.3
Metals (mg/l):			
Iron	NA	21.0	21.0
Manganese	NA	1.82	1.82
Calcium	NA	89.4	89.4
Magnesium	NA	14.1	14.1
Water Quality Parameters (mg/l):			
Alkalinity	NA	251	251
Total Hardness	NA	304	304
Suspended Solids	NA	378	378
BOD_5	NA	BDL	BDL
Grease/Oil	NA	BDL	BDL
Sulfate	NA	31.1	31.1
Surfactants	NA	0.0284	0.0284

Notes:
(1) Maximum for Metals and Water Quality Parameters are results from one sampling event only.
(2) BDL = Below Detection Limit.
(3) NA = Not Analyzed.

MALCOLM PIRNIE

TABLE 2

GOWANDA ELECTRONICS CORPORATION
GROUNDWATER REMEDIAL APPROACH INVESTIGATION

BASIS FOR GROUNDWATER TREATMENT SYSTEM DESIGN

Parameter	Basis For Design
Groundwater Collection Well:	
Well Depth	19 feet
Well Diameter	6 inches
Groundwater Treatment System:	
Treatment Technology	Low Profile Air Stripper
Flow Rate	15 gpm
Influent Concentrations	Max. Contaminant Data(1)
Effluent Concentrations	1 ppb(2)
Air Stripper Stack Height	40 feet
Iron Pretreatment	Sequestering Agent
Enclosure	Existing Building

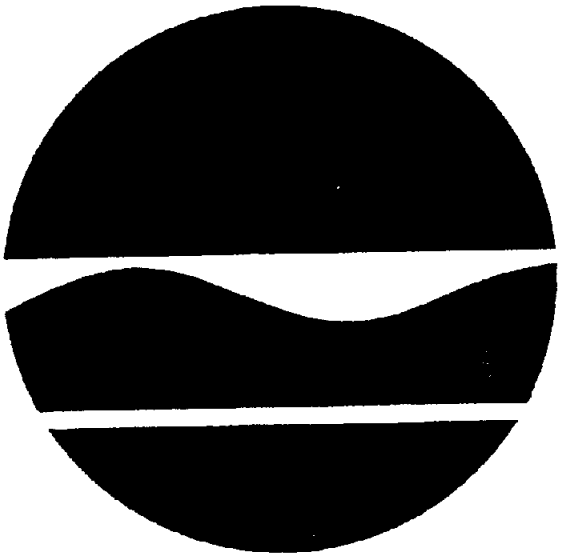
Notes:

(1) Maximum concentrations from April 1994 and January 1995 sampling events (see Table 1).
(2) Discharge limits for the Gowanda POTW are likely to be significantly higher, resulting in potential air stripper downsizing.

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

GOWANDA ELECTRONICS SITE
(UNLISTED)
PERSIA (T), CATTARAUGUS COUNTY

REPORT ON ACTIVITIES
IMMEDIATE INVESTIGATIVE WORK ASSIGNMENT (IIWA)
WORK ASSIGNMENT #D002478-33



January 1996

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

Table 3
GOWANDA ELECTRONICS SITE (UNLISTED)
Groundwater Sampling Results - Volatile Organic Compounds (VOCs)
Test Bore Numbers - TB-1,TB-2, TB-3, TB-4, TB-5 & TB-6

PARAMETER	Groundwater SCG Value ug/l	Source	GOEL01 TB-1 8' - 10' (12/5/95) ug/l (ppb)	GOEL02 TB-2 8' - 10' (12/5/95) ug/l (ppb)	GOEL03 TB-3 11' -13' (12/5/95) ug/l (ppb)	GOEL11 TB-4 DRY	GOEL05 TB-5 12.5-14.5 (12/6/95) ug/l (ppb)	GOEL14 TB-6 8' - 10' (12/6/95) ug/l (ppb)
Chloromethane								
Bromomethane								
Vinyl chloride	2	A	74	28			5J	
Chloroethane	5			17	19			
Methylene Chloride	5	A						
Acetone	50	C	9J	6J			7J	
Carbon disulfide				1J				
1,1-Dichloroethene	5	A	39	37	15		17	
1,1-Dichloroethane	5	A	210DJ	540D	280D		200D	22
1,2-Dichloroethene (total)	50	B	3000D	1900D	620D		1200D	57
Chloroform	7	A						2J
1,2-Dichloroethane	5	A						
2-Butanone	50	B						
1,1,1-Trichloroethane	5	A	730D	1400D	640D		260D	21
Carbon Tetrachloride	5	A						
Bromodichloromethane								
1,2-Dichloropropane								
cis-1,3-Dichloropropene								
Trichloroethene	5	A	2300D	330D	76D		840D	73
Dibromochloromethane								
1,1,2-Trichloroethane	5	A	3J	9J	5J		5J	
Benzene	0.7	A						
trans-1,3-Dichloropropene								
Bromoform								
4-Methyl-2-Pentanone								
2-Hexanone			1J		2J			
Tetrachloroethene	5							
1,1,2,2-Tetrachloroethene								
Toluene	5	A					1J	
Chlorobenzene								
Ethylbenzene	5	A						
Styrene								
Xylene (total)	5	A						

A - NYSDEC WATER QUALITY STANDARDS AND GUIDANCE VALUES, OCTOBER 1993
B - CHAPTER I NYS SANITARY CODE, SUBPART 5-1, PRINCIPLE ORGANIC CONTAMINANT
C - CHAPTER I, NYS SANITARY CODE, SUBPART 5-1, UNSPECIFIED ORGANIC CONTAMINANT

ALL VALUES expressed in ug/l = Parts Per Billion (PPB). (SHADED EXCEED STANDARDS)
A "J" indicates an estimated value. It denotes the presence of a compound at or below quantitation limits. A "D" value denotes all compounds identified in an analysis of a diluted sample.

Table 4
GOWANDA ELECTRONICS SITE (UNLISTED)
Groundwater Sampling Results - Volatile Organic Compounds (VOCs)
Test Bore Numbers - TB-7, TB-8, TB-9 & TB-10

PARAMETER	Groundwater SCG Value ug/l	Source	GOEL16 TB-7 8' - 10' (12/6/95) ug/l (ppb)	*GOEL18 TB-8 8' - 10' (12/6/95) ug/l (ppb)*	GOEL20 TB-9 8' - 10' (12/6/95) ug/l (ppb)	GOEL12 TB-10 11' - 12' (12/5/95) ug/l (ppb)
Chloromethane						
Bromomethane						
Vinyl chloride	2	A			99	9J
Chloroethane						
Methylene Chloride	5	A				
Acetone	50	C	8J			
Carbon disulfide						
1,1-Dichloroethene	5	A			49	2J
1,1-Dichloroethane	5	A	7J		300DJ	5J
1,2-Dichloroethene (total)	50	B	*16*		5200D	240D
Chloroform	7	A	65	*23*		
1,2-Dichloroethane	5	A				
2-Butanone	50	B				
1,1,1-Trichloroethane	5	A			910D	
Carbon Tetrachloride	5	A	*48*	*3J*		
Bromodichloromethane						
1,2-Dichloropropane						
cis-1,3-Dichloropropene						
Trichloroethene	5	A	*16*		1500D	88
Dibromochloromethane						
1,1,2-Trichloroethane	5	A			3J	
Benzene	0.7	A				
trans-1,3-Dichloropropene						
Bromoform						
4-Methyl-2-Pentanone						
2-Hexanone					1J	
Tetrachloroethene	5					
1,1,2,2-Tetrachloroethene						
Toluene	5	A				
Chlorobenzene						
Ethylbenzene	5	A				
Styrene						
Xylene (total)	5	A				

A - NYSDEC WATER QUALITY STANDARDS AND GUIDANCE VALUES, OCTOBER 1993
B - CHAPTER I, NYS SANITARY CODE, SUBPART 5-1, PRINCIPLE ORGANIC CONTAMINANT
C - CHAPTER I, NYS SANITARY CODE, SUBPART 5-1, UNSPECIFIED ORGANIC CONTAMINANT

ALL VALUES expressed in ug/l = Parts Per Billion (PPB). (SHADED EXCEED STANDARDS)

A "J" indicates an estimated value. It denotes the presence of a compound at or below the quantitation limits. A "D" value denotes all compounds identified in an analysis of a diluted sample.